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ABSTRACT

This report describes apprenticeship system development in Australia and provides a quantitative macro-level analysis of apprenticeship, traineeship, and new apprenticeship trends. Following an introduction (chapter 1), chapters 2-3 trace its European origins and establishment in colonial Australia, development and evolution through the twentieth century, establishment of traineeships in the mid-1980s, and integration of traditional apprenticeships and traineeships into a single new apprenticeship system in 1998. Chapter 4 explores Australia's comparative standing as a world-leading apprenticeship country in recent years. Chapter 5 analyzes the way the structure and nature of apprenticeships, traineeships, and new apprenticeships have changed. Chapter 6 considers changes in who is participating in apprenticeships and explores its transformation to a system providing training opportunities for all Australians. Chapters 7-8 examine system outcomes in terms of the extent of successful completion of apprenticeships, traineeships, and new apprenticeships and the job outcomes and career prospects such training leads to. Chapter 9 explores what this means for the future of the Australian apprenticeship system and identifies areas of the labor market with growth potential. Chapter 10 discusses ideas for rethinking the apprenticeship concept for the new century. Appendixes

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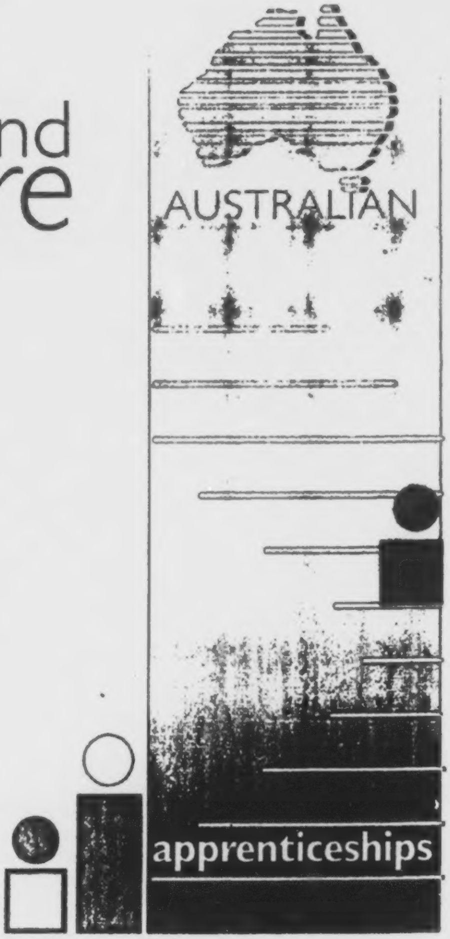
ED 453 396

Facts, fiction and *future*



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Editor's note:

New apprenticeships data considerations
Most of the apprentice and trainee figures provided in this report for 1995 through to 2000 are based on the year ending 30 June and have been derived from information available in NCVER's June 2000 New Apprenticeships Collection. At the time of writing this report, this was the latest available collection. It should be noted that the 1999 and 2000 figures may have changed slightly with subsequent collections due to the processing of late returns. It also follows that any growth rates presented may also have changed.

Due to some missing historic information for one jurisdiction, completions data for 1995 and 1996 were derived from the December 1998 Contracts of Training data.

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Foreword

THE AUSTRALIAN APPRENTICESHIP system today is almost unrecognisable from the one that I and my colleagues reviewed in 1984 as part of the Commonwealth Government's National Inquiry into Labour Market Programs. Then we found an apprenticeship system that had changed little in the post-Second World War period, one which was restricted to the skilled trades and almost exclusively catered only for young males. We recognised the need for change, particularly if a wider range of training opportunities combining work with formal off-the-job training were to be made available to all groups of young Australians. The review recommended a new system of youth traineeships to complement apprenticeships.

Substantial changes have occurred since that time. Traineeships were implemented. Age restrictions have been lifted. Competency-based training has been introduced. Trade and vocational certificates have been integrated into the Australian Qualifications Framework. The new apprenticeships system encompassing traditional apprenticeships and traineeships has been established.

Despite all of this change the Australian apprenticeship system has been subject to remarkably little analysis, review or evaluation since the Inquiry into Labour Market Programs.

The National Centre for Vocational Education Research (NCVER) felt that this needed to change. It instigated a major program of apprenticeship research and analysis of which this report is the key part.

This report provides the most comprehensive analysis of the apprenticeship system since the 1984 Inquiry into Labour Market Programs, together with the first comprehensive assessments of the impact of traineeships and new apprenticeships.

Some important conclusions about future directions and what all of this means for rethinking the concept of apprenticeships in Australia are made in this report. Apprenticeship has a key role to play in the future of Australia's skill formation, building on the solid foundation of its past in this country.

In conjunction with this report, the NCVER carried out or commissioned a series of new research studies into various key apprenticeship and traineeship issues. Their results have been published as papers in a companion volume to this report, *Australian apprenticeships: Research readings*, edited by Nigel Smart. (Details are given in the introduction of the report.)

Finally, a steering committee was established to provide advice on key apprenticeship and traineeship issues. This committee was chaired by Peter Noonan, Deputy Director-General, Department of Employment, Training and Industrial Relations, Queensland. Other members of the committee comprised:

- Gary Willmott, Assistant Director-General, Department of Education and Training, New South Wales
- Adrian Stephens, Director, National Training Framework Pathways, Australian National Training Authority
- William Thorn, Assistant Secretary, Research & Evaluation Branch, Department of Education, Training and Youth Affairs
- Peter Tighe, National Secretary, Communications, Electrical, Electronic, Energy, Information, Postal, Plumbing and Allied Services Union of Australia
- Peter Glynn, Chief Executive, National Electrical and Communications Association

The committee met in February 2000 to identify key issues to be addressed, and again at a workshop with researchers in May 2000 when researchers presented key findings. Committee members have provided comments on drafts of this report. Responsibility for the accuracy of the information contained in this report and for the interpretations presented rests entirely with the NCVER.

My thanks go to the members of the committee and to all concerned with this important new work.

Peter Kirby
Chair
National Centre for Vocational Education Research
and Chair
1984 Committee of Inquiry into Labour Market Programs

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Substantial use was also made of John Ray's excellent and extensive historical study on the development of apprenticeships in Australia, which was commissioned for use in this report (see Ray 2001). We would like to take this opportunity to particularly thank John for a lifetime of work devoted to improving Australia's apprenticeship system. Notable amongst the many different roles played by John was head of the secretariat to the Committee of Inquiry into Labour Market Programs which led to the introduction of traineeships in Australia.

Finally, thanks also go to Kaye McAdam, Tracey Jackson, Kim Rickards, Lorraine Hobart, Jennifer O'Flynn, Sara Wilson, Carol Cheshire, Penelope Curtin, Pauline Ackland and Céline Lawrence for their tireless work on design, presentation, layout, proofing and editing.

Executive summary

APPRENTICESHIPS ARE THE oldest and most resilient form of post-school education and training in Australia. Today, new apprenticeships account for around 15% of all vocational education and training students.

The apprenticeship system has undergone a renaissance in the past decade in Australia. At the time of writing this report, there were over 275 000[1] new apprenticeships in Australia in June 2000 (NCVER 2000b), with the numbers of apprentices and trainees having risen from only 136 000 in 1995. By December 2000, the total had risen to approximately 295 000. But this is only the 'tip of the iceberg'. There are almost 1.5 million people (12% of the working-age population) in Australia today who possess a skilled vocational qualification, most of which were gained through the apprenticeship system at one time or another. To put this in perspective, there are also 1.5 million Australians of working age who have a bachelor degree from a university. Thus apprenticeship and skilled vocational qualifications and university bachelor degrees are by far the most common credentials in the Australian workforce.

The National Centre for Vocational Education Research (NCVER) has prepared this report because, despite the popularity of apprenticeships, very little comprehensive analysis of the system has ever been undertaken. The last extensive national review of apprenticeships was by the Committee of Inquiry into Labour Market Programs in 1984 (Kirby 1985), which led to the establishment of traineeships to complement apprenticeships. There has been surprisingly little research into the contribution of the apprenticeship system to Australia's skills base. There is much confusion and misunderstanding about apprenticeships in contemporary Australia, even amongst those who work most closely with the system.

This extent of misunderstanding about apprenticeships is typified by a media headline in December 2000 which proclaimed *'dramatic fall in teenagers undertaking new apprenticeships'*. This was said at a time when more than 100 000 teenagers are in the system—an all-time record number—when the proportion of all teenagers in new apprenticeships has been growing strongly, not declining, to reach 7.5% in 2000, and when nearly 45% of all teenagers in full-time employment today are in a new apprenticeship—the highest rate of coverage ever.

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[1] This was the figure published from the June 2000 new apprenticeships data. It has since been revised to around 280 000 with later updates.

Until 1998 the term 'apprenticeships' referred to the traditional trade apprenticeship fields, with traineeships being a separate category of entry-level training. In the last two years at a national level, the term 'new apprenticeships' is used as a generic term to include both traineeships and apprenticeships. At a State and Territory level however, the term 'new apprenticeships' is not widely used. This report focusses upon apprenticeships and traineeships. Where the term 'new apprenticeships' is used, it is inclusive of both these categories of entry-level training.

However, it is disturbing that such an important part of our education and training system is so poorly understood. Perhaps this is not surprising however, given the wide-ranging and quite fundamental changes that have occurred in the past 15 years, especially in the past six or seven years.

This report is an attempt to rectify this misunderstanding.

The origins of apprenticeships in Australia

The origins and the development of apprenticeships since the early days of the Australian colonies through to the present day are examined in detail in the report. Apprenticeships in Australia had their origins in an apprenticeship system 'inherited' from Britain. The first 150 years saw the apprenticeship system spread throughout the colonies and (from 1901), the States and Territories of Australia, and across various skilled trades occupations. Originally, an indenture was undertaken with employers and apprentices receiving instruction on the job; formal off-the-job training (typically for one day per week for three years) became universal in apprenticeships in the post-Second World War period. Fully on-the-job apprentice training virtually disappeared until 1994.

Apprenticeship numbers grew to reach 100 000 by the end of the 1960s. Apprentice numbers grew sharply to over 130 000 in 1974 in response to the establishment of the first universal government subsidy scheme to encourage employers to take on more apprentices. Apprenticeship numbers fluctuated in response to economic cycles and peaked at just under 150 000 in 1982.

Establishing traineeships

In response to growing concerns about rapid rises in youth unemployment in Australia, the government established the national Committee of Inquiry into Labour Market Programs in 1984. The inquiry found that the apprenticeship system had hardly changed for decades, with apprenticeships being restricted to a narrow range of occupations in the skilled trades, certainly mainly for young males. Traineeships were recommended to complement the apprenticeship system by introducing apprenticeship-style training to a much wider range of occupations and to a broader group of young Australians, especially young females (Kirby 1985).

Traineeships began slowly but apprenticeship numbers grew rapidly in the late 1980s to reach a peak of 161 000 in 1990. This number, together with just less than 12 000 traineeships, made 1990 the highest year on record for the system—with over 172 000 in total. The numbers of apprentices and trainees crashed in the early 1990s following a major recession to a low of 131 000 in 1994. Since then the growth has been extraordinary.

Broadening the occupational coverage of apprenticeships

The findings of this report show that despite the very slow implementation of traineeships in their first ten years, their introduction has had the most profound effect in transforming the Australian apprenticeship system from one entirely focussed on the skilled trades (where some 14% of Australia's jobs are located) to a system now covering hundreds of occupations across the entire labour market. The impact of these developments is that the contemporary 'new apprenticeships' system now reflects the structure of the Australian labour market in a way never before seen. This rapid transformation has only taken place since the early 1990s.

Apprenticeship reforms of the 1990s

Other key reforms have been introduced in the past decade or so. These include:

- the introduction of competency-based training and training packages across apprenticeships and traineeships
- the abolition of age restrictions in 1992 to permit people of all ages to participate in apprenticeships and traineeships
- the relaxation of the requirement for formal off-the-job training in apprenticeships and traineeships in 1994–95
- the extension of traineeships to programs leading to the equivalent of certificate III, certificate IV or diploma level qualifications in 1994–95
- the incorporation of vocational certificates and other qualifications gained from apprenticeships and traineeships into the integrated Australian Qualifications Framework from 1995, which provides a single national qualifications framework for all senior secondary, vocational and higher education credentials
- the establishment of an integrated *new apprenticeship* system in 1998, incorporating both apprenticeships and traineeships into a single national

system, together with the introduction of new flexibilities including user choice of training providers

The changing structure of apprenticeships

The analysis in this report shows that these changes have had a profound effect on Australia's apprenticeship system. The changes together with the effects of a strong economy, have seen apprenticeship and traineeship numbers expand very rapidly from only 136 000 in 1995 to over 275 000 by June 2000.

The impact of the new flexibilities on the structure of apprenticeships and traineeships is examined in the report. Most notable is that, despite all the changes:

- over 60% of all new apprenticeships are over two years' duration
- over 120 000 new apprenticeships (almost 45%) are over three years' duration
- almost 80% of all new apprenticeships are at certificate III level or higher

There are nearly 210 000 new apprenticeships at certificate III level, by far the highest number ever. Certificate II programs are only 20% of the total, and certificate I programs have now almost disappeared entirely from the system.

Other changes examined are the growth of part-time apprenticeships and the establishment of school-based apprenticeships.

The quality of the system

This report is essentially an analysis of developments and quantitative trends in the apprenticeship system. It does not provide an evaluation of the apprenticeship system, nor does it provide an exhaustive examination of the quality of teaching, supervision, learning and training and assessment in the system.

However, some of the concerns which have been identified in recent research and reviews (especially of particular jurisdictions) are noted in the report.

Insomuch as client satisfaction (that is, employers and apprentices and trainees) is one indicator of quality, it is remarkable that nationally, the numbers of apprenticeships, traineeships and new apprenticeships have doubled since the mid-1990s, yet the levels of client satisfaction with the system are very high. Over 80% of employers who have at least one new apprentice said they were satisfied or very satisfied with the training provided. In 2000 nearly two-thirds of new apprentices who had completed a technical and further education (TAFE) qualification as part of their new apprenticeship program gave an excellent rating (that is, at least 8 out of 10) to the overall quality of the training they received. Some 94% rate the relevance of the training to their job as excellent.

Nevertheless, recent reviews of the traineeships in particular jurisdictions have identified some instances of problems, such as the lack of any training provision, the lack of training plans and inadequate arrangements for monitoring the quality of training, all of which need to be addressed in the future.

Apprenticeships for people of all ages

The decision to allow access to people of all ages has had a major impact. The system has been transformed in the past five or six years from one focussed almost exclusively on youth, to one catering for people of all ages. In 1995 only 7% of apprenticeships and traineeships were taken up by people aged 25 years or over. Today almost one-third have been taken up by people aged 25 years and over.

This report shows that, contrary to popular belief, this trend has *not* occurred at the expense of apprenticeship opportunities for young people.

Overall numbers of young people in new apprenticeships are at record levels in Australia. Today there are some 190 000 people under the age of 25 years in apprenticeships. Over 100 000 of them are teenagers. In 1995 there were only just over 70 000 teenagers and just over 50 000 young adults aged 20–24 years in the system. The proportions of all young people in apprenticeships and traineeships have also grown strongly since the mid-1990s. Some 5.7% of 15 to 19-year-olds participated in an apprenticeship or traineeship in 1995, whereas 7.5% of them are in a new apprenticeship today. The participation rate of 20 to 24-year-olds has almost doubled from 3.7% to 6.3% between 1995 and 2000.

Far from being a problem, the report demonstrates that these developments are both desirable and necessary. Australia's population is aging rapidly. Our future skill requirements as a nation cannot be properly met by simply focussing on youth as the main source for new skills.

Catering for different groups of Australians

The experiences of different groups in apprenticeships, traineeships and new apprenticeships are examined.

The report shows that it took more than 150 years for female participation in apprenticeships to reach 10%. Policies to increase female participation in trades apprenticeships and other strategies designed to increase female participation in the late 1970s, 1980s and early 1990s had little effect. Female participation rose to less than 13% by 1994. The last five years, however, have seen an enormous increase, with female participation in new apprenticeships now exceeding 30%. The findings of this report are that the experience of the past five years suggests that the only effective way to increase female participation is to ensure more new apprenticeships are available in those areas of the labour market where women work. It is argued in the report that, despite the recent progress, a continuation of female participation at levels below their share of the workforce is an unacceptable situation for Australia.

The report shows how the new apprenticeship system is now providing, or very nearly providing, reasonable access to Indigenous people and people with disabilities. However, participation by people from non-English-speaking backgrounds is much lower than it should be.

Considering completions in context

Analysis of the substantial recent growth in completions of apprenticeships, traineeships and new apprenticeships from just 33 000 in 1995 to nearly 74 000 in 2000 is contained in the report. Some problems in official statistics are considered. More importantly, the misleading conclusions that have been drawn from the misuse of crude proxy measures for completion, attrition and non-completion rates are exposed in the report.

The report shows that the conclusions drawn by some observers that non-completions have been rising at an alarming rate in recent years are simply wrong in the context of the overall national trends.

Using appropriate methodologies, various recent studies have established that:

- apprenticeship non-completions are in the order of 23–30%
- non-completions in the shorter traineeships are higher at around 45%

The findings of the study show that apprenticeship completions are better than those for university courses and TAFE generally. This suggests that high levels of concern about apprenticeship attrition are perhaps misplaced. In a relative sense, apprenticeship completions are high.

Around three-quarters of all apprentices complete their apprenticeship, whereas only two-thirds of university undergraduate students complete their bachelor degree programs.

Traineeships are a different matter. Only 55% of people in shorter traineeships complete their traineeship. It is important to note that this level of completion is comparable to the retention of people in their first year in a new job. Natural job mobility is high in the labour market, including for those in a traineeship. Nevertheless, we might expect the completions from a structured training program to be at least a little higher, given both the government and employer investment that is occurring in traineeships. However, it is also important to recognise that job outcomes from both apprenticeships and traineeships are very good even amongst those not completing the full apprenticeship or traineeship (as discussed below).

The high levels of job outcomes

Most of the policy and media attention of the apprenticeship system in Australia has been focussed on the numbers entering the system, on the overall numbers in training, and on attrition levels. As a result, the excellent levels of job outcomes from apprenticeships, traineeships and new apprenticeships have almost gone unnoticed.

The report shows that, in 2000, some 93% of all new apprentices were employed in an unsubsidised job three months after completing their new apprenticeship. Further, over 90% of new apprentices who successfully completed off-the-job training in TAFE as part of their new apprenticeship in 1999 were retained in employment or had found a new job by May 2000. The rate was some 95% for apprenticeships and over 85% for traineeships.

The findings of this study show that, in terms of gaining or retaining a job, apprenticeships, traineeships and new apprenticeships perform far better than any other forms of tertiary education or training. Although the employment outcomes of all forms of tertiary education and training are good, less than three-quarters of TAFE graduates were employed in May of the following year after graduation. Only two-thirds of university graduates with a bachelor's degree or undergraduate diploma attained similar post-course employment levels.

New apprenticeships are an excellent pathway to jobs.

It stands to reason that people who complete a training program with a substantial workplace component (that is, it is also a job) will have greater immediate access to employment than those in institutional pathways. The very high employment outcomes from new apprenticeships essentially reflect retention in employment, as new apprentices already had a job while undertaking their training. By contrast, university graduates are often seeking to enter professional or career employment for the first time. Other TAFE graduates are generally a mix of those being retained in employment or seeking new employment.

Even partial completion of a new apprenticeship provides very good job outcomes. In 2000 the proportion of people who did not complete their full new apprenticeship program but who were employed in an unsubsidised job within three months of leaving their new apprenticeship had risen to over 70%. This rate has almost doubled in the past five years.

Career starting salaries however, remain highest for university graduates who find the majority of their employment in the professional occupations which include the highest-paying jobs in the labour market. For first full-time job holders, university graduates averaged $635 per week in 1999, TAFE graduates as a whole earned $460 per week and new apprentices had a starting salary of $475 per week, on average.

The long-term career prospects from apprenticeships

The report explores available (although somewhat limited) data about the longer-term career prospects of people who have undertaken apprenticeships at some stage in the past. There is little or no information as yet available to trace the long-term outcomes for those having completed traineeships or new apprenticeships.

The findings in the report suggest that long-term job outcomes for people with apprenticeships and skilled or vocational qualifications are very good. The probability of such people having a job is 83%, almost as high as for university graduates (their probability of employment being 85%). People with other qualifications (such as diplomas or basic vocational qualifications) only have a 75% chance of having a job, and the probability of employment falls to only 64% for those with no qualifications.

People with apprenticeship or equivalent skilled vocational qualifications also enjoy much higher rates of full-time employment (90%) and self-employment (20%) than any others in the labour market, university graduates included. Apprenticeships are by far the best pathway available to full-time employment or self-employment.

Separation by people with apprenticeship and skilled trades qualifications from employment in those trades has generally been considered as a major problem of 'wastage' in Australia.

The evidence in this report suggests that the term 'wastage' is a misnomer. More often than not, people with apprentice and skilled vocational qualifications are moving to higher-skilled/higher-paying positions, quite often to an area of the labour market that relates to their original training.

Almost 45% of all the employed people with skilled vocational qualifications who are not working in the skilled trades are working in managerial, professional or associate professional occupations.

The long-term earnings potential of people with apprenticeship or skilled vocational qualifications is good, particularly because of the very high rates of full-time employment achieved by people with such qualifications. People with such qualifications and working full time earned an average of just under $44 000 per year in 1997–98. University graduates, however, are better paid with much higher proportions entering the professional jobs in the labour market. However, those with apprenticeship and equivalent skilled vocational qualifications fare better in terms of average earnings than those with basic vocational qualifications, or those with no qualifications.

Future directions

The analysis in the report suggests that there is potential for further expansion of new apprenticeships to at least 400 000 in the medium-to-long-term.

A more strategic approach to expanding the coverage of new apprenticeships across the labour market is proposed. Without precluding new apprenticeships in any occupations or in any jobs at different skill levels, it is proposed that the top priority for the future expansion of the system should be in occupations that have higher or intermediate-level skill requirements, where new apprenticeship arrangements will have the greatest benefits in terms of overall skill formation.

The report suggests that the development of new apprenticeships arrangements in the associate professional occupations should be given the highest priority. Currently new apprenticeships in these occupations account for less than 3% of all new apprenticeships, yet these occupations comprise over 10% of all jobs (of which only 0.7% were new apprenticeships in 2000). By contrast, some 12% of all the skilled trades jobs in Australia are filled by new apprentices, and these jobs are 14% of all the jobs in Australia. Hence the long-term potential exists for associate professional new apprenticeships to become almost as significant as they already are in the skilled trades. The reasons why associate professional occupations are equally suitable for widespread new apprenticeships are explored in the report. The long-term objective should be to achieve new apprenticeships coverage of 10% of all associate professional jobs in Australia.

The feasibility and efficacy of these suggestions in terms of the further roll-out of new apprenticeships into new areas will need to be tested by government in consultation with industry. The analysis in this report aims to provide a starting point for such consultations and discussions rather than a blueprint for action. Nevertheless, the analysis undertaken provides compelling evidence for such action.

The continuing special role of new apprenticeships in the skilled trades occupations is also explored in the report, along with some further discussion about why further expansion in clerical, sales and service new apprenticeships is both possible and likely.

Some specific occupations that should be targetted for growth are identified in the report.

Arguments relating to why the professions and many production, transport and labouring occupations are likely to be, or should be, a low priority for further expansion of new apprenticeships are made in the report.

The compelling reasons why more, not fewer adults in new apprenticeships will be needed are also explored in the report. The main finding is that the appropriate concept for Australian apprenticeships in the future is not exclusively as a school-to-work transition pathway. Apprenticeships should be a major entry-level pathway, irrespective of the age of the person, to all those occupations where an apprentice model makes sense (that is, especially jobs requiring intermediate level and higher-order skills). Issues of skills' upgrading and ongoing skilling of existing workers continuing in their current jobs would be more appropriately handled through training approaches other than apprenticeships.

Specifically, it is argued in the report:

- Apprenticeships should not apply to situations where little or no training is required to carry out jobs requiring very low levels of skill.
- As there are so few left, certificate I programs should be eliminated from the apprenticeship system.
- Notwithstanding the above, apprenticeships should be broadly based across the whole labour market and should *not* be restricted only to specific occupational groups such as the skilled trades.

The apprenticeship concept requires some redesign to make it more appropriate for meeting Australia's skill needs in the new century. In this context it is important that the content of apprenticeships be developed beyond competencies in the existing technical skills so that a better balance is created between these and increasing requirements for:

- underpinning theoretical and technical knowledge and understanding (noting that the Australian National Training Authority is exploring how this can be implemented)
- the full range of work skills, employability skills and generic skills beyond the technical skills that are now being identified as so important in the workplace by more and more employers

These work skills include information technology and computing skills, customer service skills, interpersonal and human relations skills, analytical skills, enterprising skills and innovation skills. It is noted that industry and government are currently in the process of exploring this issue.

The analysis in this report shows that similarities between what were once quite distinct apprenticeship and traineeship systems are now far more important than any differences that remain.

Despite the establishment of an integated new apprenticeship system in 1998, a continuing distinction between traineeships and apprenticeships still persists in some parts of the country in relation to the conditions and requirements applying to different contracts of training, and in relation to the local labelling of different contracts of training as apprenticeships or traineeships.

In substance, the main differences between contracts of training are now:

- in the occupations in which the training is occurring
- the AQF level of qualifications being sought

In the report, it is argued that the logic of continuing with an apprenticeship/traineeship distinction now makes less sense than it used to. Putting the term *'traineeship'* to rest is suggested.

Problems with the *'new'* in the term new apprenticeship are also discussed, and the simple term *'apprenticeship'* is suggested as the most appropriate label for contracts of training in Australia in the new century.

Conclusion

The Australian apprenticeship system is becoming a world-leading system in terms of its size, scope and coverage.

The growth in apprenticeships, traineeships and new apprenticeships has been so rapid in the last five years, that today some 2.1% of Australia's working-age population are now in a new apprenticeship.

Australia now ranks fourth in the world just behind Switzerland, Germany and Austria in terms of the relative coverage of the apprenticeship system in the workforce. The Australian system is a world leader in terms of its coverage of adult apprentices. The dual systems of Switzerland, Germany and Austria are still focussed on young people.

Countries like Finland, Norway, the Netherlands and Denmark have apprenticeship coverage of only around 1% of the working-age population. France, the United Kingdom and the United States have even lower levels of coverage of their apprenticeship systems.

In 1977, the Organisation for Economic Co-operation and Development (OECD) concluded that:

> *the Australian apprenticeship system has served Australia well and it should not be swept away until something better has been put in its place.*
>
> (OECD 1977, p.54)

The findings of this report show that nearly 25 years later, the contemporary 'new apprenticeships' system continues to serve Australia well. New apprentices have excellent job prospects compared with other TAFE or other vocational education graduates and university graduates. Long-term career prospects and lifetime earnings potential are good, especially for those coming out of the longer and higher-level apprenticeships.

The apprenticeship system is, however, vastly different from that which existed 25 years ago. It is nearly three times larger in terms of the number of apprenticeships, it now covers all occupational areas of the labour market, and there has been a rapid transformation in recent years from a system mainly directed at young males to one covering all ages and all groups of Australians. Twenty-five years later *'something better has been put in its place'*.

1 Introduction

Apprenticeships have proved to be the most resilient form of vocational education and training in Australia. Apprenticeships involve both training and instruction, and on-the-job experience in the workplace in the skills required in various occupations. Typically the formal training required is provided off the job by a technical and further education (TAFE) institute or other registered training organisation. It is, however, possible for the formal instruction to be provided wholly in the workplace. Apprenticeship training occurs within a contract of training.

Apprenticeships are more popular than ever in Australia with total numbers of people in the system reaching over 275 000 by June 2000[2]. By December 2000, the total had risen to approximately 295 000.

Apprenticeships are highly valued by people needing to gain skills to enter a new occupation. Apprentices benefit from having guaranteed employment while undertaking training, and from having the opportunity to learn skills from experienced, skilled and qualified persons in their chosen occupation.

Apprenticeships are also popular with those employers who are involved in the system. Employers have the benefit of an employee who can be trained in the particular skills their enterprise requires, who becomes more and more productive as time passes, and who can be paid at a lower rate than a fully qualified worker during the contract-of-training period.

Traditionally, apprenticeships in Australia have been a very important and popular pathway for young people (particularly young males) making the transition from school to work in the trades-related occupations.

These factors perhaps explain why apprenticeships receive so much attention from governments, employers and unions well beyond their relative importance in the Australian vocational education and training (VET) system. New apprentices only make up some 15% of all VET students, yet they are an important part of the employment system as well as of the training system in Australia.

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[2] This was the figure published from the June 2000 new apprenticeships data. It has since been revised to around 280 000 with later updates.

Since the establishment of traineeships was proposed by the Committee of Inquiry into Labour Market Programs (Kirby 1985) reforms over the past 15 years to the apprenticeship system have been profound. These reforms have included the introduction of competency-based training and training packages in apprenticeships, the expansion of the system beyond the traditional trades, the opening-up of the system to all age groups and groups of Australians who did not traditionally participate, the establishment of the new apprenticeships system and substantial growth in the numbers involved in apprenticeships and traineeships and new apprenticeships since the mid-1990s.

With all this change it is surprising how little the apprenticeship system has been reviewed and analysed. There has been no overall review of the system since the 1980s. It is not surprising however, that many of the recent changes to the system are not well understood, even by those working closely with the system.

For instance, a recent headline in December 2000 proclaimed *'dramatic fall in teenagers undertaking new apprenticeships'* at a time when there are actually more teenagers in the apprenticeship system that at any time in our history. Other observers have pointed to 'declining numbers of apprentices', 'declining skill levels in apprenticeships' and the like. Yet the evidence is that apprenticeships have been growing: the total numbers of apprentices and trainees are now at record levels and the numbers in certificate III or higher-level programs are growing not falling.

This report is intended to provide a much better understanding of what is really happening in Australia's apprenticeship system through a comprehensive analysis of trends, patterns and developments in the system. Such an analysis can provide a sounder basis for proper consideration of the future of this vital component of Australia's skill-formation system.

This report traces the development of the apprenticeship system in Australia from its European origins and its establishment in colonial Australia, its development and evolution through the twentieth century, the establishment of traineeships in the mid-1980s to complement the apprenticeship system, through to the integration of traditional apprenticeships and traineeships into a single new apprenticeship system in 1998 (chapters 2 and 3).

The way in which Australia's comparative standing as a world-leading apprenticeship country in recent years is explored in the report (chapter 4).

The report analyses in detail the way the structure and nature of apprenticeships, traineeships and new apprenticeships have changed, particularly in recent years. The diversification of the Australian apprenticeship system beyond the traditional trades occupations to ensure structured training opportunities in all areas of the Australian labour market has been the most profound change during the past decade (chapter 5).

Changes in who is participating in apprenticeships are also considered in some depth; the transformation of the Australian apprenticeship system beyond catering principally for teenage males to a system providing training opportunities for all age groups and all groups of Australians is explored (chapter 6).

The report also examines the outcomes of the system in terms of the extent of successful completion of apprenticeships, traineeships and new apprenticeships in Australia, and the job outcomes and career prospects such training leads to (chapters 7 and 8).

Most importantly, what all this means for the future of the Australian apprenticeship system is explored. In particular, those areas of the labour market where there is potential for growth in new apprenticeships are identified (chapter 9). Some ideas for rethinking the apprenticeship concept for the new century are also discussed (chapter 10).

Additional statistics and research information about apprenticeships, traineeships and new apprenticeships are given in appendices 1 and 2 of this report. Some observations about the impact of labour market changes and demographic changes on apprenticeships, traineeships and new apprenticeships are given in appendix 3. Current subsidy arrangements for new apprenticeships are described in appendix 4. The appendices can be found on the world wide web at: http://www.ncver.edu.au/research/proj2/mk0006a.pdf

This report describes the development of the apprenticeship system in Australia and provides a quantitative macro-level analysis of apprenticeship, traineeship and new apprenticeships trends.

The figures used throughout this report reflect the policies and practice in place in States and Territories at the time of collection and reporting to the NCVER. Practice relating to eligibility criteria and legislation governing apprentices and trainees which result in different patterns of take-up varies between States. In particular, different practices and policies have resulted in different mixes in balance between apprentices and trainees in making up the total contracts of training in each jurisdiction. Moreover, different policies have applied to the issue of existing workers in apprenticeships and traineeships at different times. Further, some States, notably Queensland, have reviewed these requirements and put in place greater limitations, resulting in a recent downturn in apprenticeship and traineeship numbers.

In recent times some concerns have been raised about the quality of some aspects of the apprenticeship, traineeship and new apprenticeship system (for example, see Schofield 1999a, 1999b, 2000; Senate Employment, Workplace Relations, Small Business and Education Reference Committee 2000). This report is not an evaluation of the system, nor does it examine the quality of teaching, supervision, learning and training or assessment in the Australian apprenticeship system. However, there is some evidence that, in some cases, quality issues will require more attention in the future. What is not yet clear is the extent to which serious quality problems exist across the board. Putting this in context, this report shows the system has grown enormously since the early 1990s, with apprenticeship-style training arrangements being more popular than ever with both employers and apprentices and trainees in Australia today.

Finally, this report represents the central part of a broader program of research and analysis embarked upon by the NCVER to examine apprenticeships, traineeships and new apprenticeships in Australia.

In addition to this main report, funding from the Australian National Training Authority's (ANTA) national vocational education and training research program was used to sponsor a series of new research projects into various aspects of apprenticeships and traineeships in Australia. The NCVER also carried out two new research projects. This research throws more light on some aspects of the system and is related to the quality of teaching, supervision, training and learning and assessment mentioned above.

The key results of this work have been published in a series of papers, each being published as a chapter in an accompanying volume *Australian apprenticeships: Research readings* edited by Nigel Smart. This volume also contains an invited paper by Kaye Schofield who has just completed a series of reviews in particular jurisdictions. These papers are:

Ball, K and Freeland, B, *Determinants of apprentice training by small and medium-sized enterprises*

Dumbrell, T, Finnegan, W and de Montfort, R, *Locational issues in new apprenticeships*

Harris, R, Simons, M, Symons, H and Clayton, B, *Factors that contribute to retention and completion in apprenticeships and traineeships*

Martino, J and Holden, S, *Unlocking the barriers: A regional perspective of apprenticeships and traineeships*

Misko, J, Patterson, J and Markotic, R, *The value of on-the-job traineeships*

O'Neill, S and Gish, A, *Apprentices' and trainees' English language and literacy skills in workplace learning and performance: Employer and employee opinion*

Ray, J, *Apprenticeship in Australia: A concise history*

Saunders, S, *Issues and directions from the Australian apprenticeship and traineeship literature*

Schofield, K, *Quality in context: Reflections on factors impacting on the quality of apprenticeship and traineeship training*

Smart, N, *Introduction*

Strickland, A, Simons, M, Harris, R, Robertson, I and Harford, M, *On- and off-job approaches to learning and assessment in apprenticeships and traineeships*

Webster, E, Dockery M, Bainger, T and Kelly, R, *Training for the skilled trades in Australia, 1980 to 2000: Training reforms*

Each of the full research reports upon which the above papers are based are published electronically on the world wide web at:

http://www.ncver.edu.au/apprentices.htm

These reports are:

Ball, K and Freeland, B 2001, *Factors affecting the provision of entry-level training by enterprises*, NCVER, Adelaide. http://www.ncver.edu.au/research/core/cp9908.pdf

Demediuk, T, Holden, S and Martino, J 2001, *Increasing opportunities for apprenticeships and traineeships in Melbourne's western region*, NCVER, Adelaide. http://www.ncver.edu.au/research/proj/nr9021.pdf

Dumbrell, T, Finnegan, W and de Montfort, R 2001, *Locational issues in new apprenticeships*, NCVER, Adelaide. http://www.ncver.edu.au/research/proj/nr9022.pdf

Harris, R, Simons, M, Bridge, K, Bone, J, Symons, H, Clayton, B, Pope, B, Cummins, G and Blom, K 2001, *Factors that contribute to retention and completion rates for apprentices and trainees*, NCVER, Adelaide. http://www.ncver.edu.au/research/proj/nr9019.pdf

Misko, J 2001, *On-the-job traineeships: Advantages and disadvantages for employers and trainees*, NCVER, Adelaide. http://www.ncver.edu.au/research/core/cp9801.pdf

O'Neill, S and Gish, A 2001, *Apprentices' and trainees' English language and literacy skills in workplace learning and performance: Employer and employee opinion*, NCVER, Adelaide. http://www.ncver.edu.au/research/proj/nr9017.pdf

Ray, J 2001, *Apprenticeship in Australia: An historical snapshot*, NCVER, Adelaide. http://www.ncver.edu.au/research/proj/nr9011.pdf

Saunders, S 2001, *Issues and directions from a review of the Australian apprenticeship and traineeship literature*, NCVER, Adelaide. http://www.ncver.edu.au/research/proj/nr9012i.pdf

Saunders, S 2001, *Review of the Australian apprenticeship and traineeship literature: References and their key issues*, NCVER, Adelaide. http://www.ncver.edu.au/research/proj/nr9012r.pdf

Strickland, A, Simons, M, Harris, R, Robertson, I, Harford, M and Edwards, A 2001, *Evaluating on- and off-the-job approaches to learning and assessment in apprenticeships and traineeships*, NCVER, Adelaide. http://www.ncver.edu.au/research/proj/nr9020.pdf

Webster, E, Dockery, M, Bainger, T and Kelly, R 2001, *Training for the skilled trades in Australia, 1980 to 2000: Training reforms*, NCVER, Adelaide. http://www.ncver.edu.au/research/proj/nr9018.pdf

Throughout this report, the terms 'apprenticeships', 'traineeships' and 'new apprenticeships' are used. 'Apprenticeship' describes the contracts of training that have been in place since the early days. In more recent times apprenticeships have mainly meant training at the Australian Qualifications Framework (AQF) certificate III level or equivalent, mostly, although not always, in the skilled trades and related occupations. 'Traineeships' were established in 1985 to provide training opportunities within a contract of training in other areas of the labour market and at various qualification levels. Most frequently, traineeships were at the AQF certificate II level or equivalent, although traineeships have been established at all levels from certificate I through to advanced diploma.

The new apprenticeships system was established on 1 January 1998, integrating both apprenticeships and traineeships. The term 'new apprenticeships' is used in this report to describe both apprenticeships and traineeships since the beginning of 1998.

Just to confuse matters more, the generic term 'apprenticeship' is also used to describe the whole system.

2 The early years of apprenticeship in Australia

2.1 The origins of apprenticeship

Apprenticeships are a time-honoured system of training, whereby the skilled (masters) pass on the skills of their craft to novices. Apprenticeships involve both the employment and training of the novice, so that after an adequate indenture period the novice might also move to the ranks of the skilled artisan.

Apprenticeships have a very long history extending back to Egyptian and Babylonian times. However, the apprenticeship system as we know it did not emerge until the Midde Ages. During the fourteenth, fifteenth and sixteenth centuries, journeymen or artisans organised themselves into guilds or associations to protect payment and working conditions. It was in this system that apprenticeships became the mechanism for skill acquisition and entry to the guilds.

The Australian apprenticeship system has its roots in the practices of craft guilds that bound apprentices to their masters in medieval Britain and Western Europe, as described in box 1 (page 8)[3].

2.2 Establishing the apprenticeship system in Australia

The apprenticeship system spread to the new world, including to Australia in the late eighteenth century and throughout the nineteenth century. In colonial Australia, apprenticeships were established on the basis of the British system, with conditions being governed through the application of English law relating to the master–apprentice relationship. This first occurred in New South Wales, and became the basis of subsequent laws governing apprenticeships throughout Australia. The relationship between a master and apprentice was a contract of employment and training, and was subject to the application of the law because it dealt with the employment of children.

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[3] A more detailed description of the origins of the apprenticeship system is given in Gospel (1994), Microsoft (1997), Ray (2001) and Whittock (1842).

Box 1: The European roots of the apprenticeship system

During the Middle Ages, the apprenticeship system flourished with artisans in medieval Europe coming together to form craft guilds. The purpose of the guilds was to provide economic protection to craft or industry members by making it difficult for artisans who did not belong to the craft guild to practise the craft. The craft guild comprised three major groups—masters, journeymen and apprentices. The master, an owner–manager of a small business, owned the raw material and the manufacturing tools. The goods manufactured in his workshop were then sold for his profit. Apprentices were often children (sometimes as young as eight or nine years old) who learned their trade under the direction of the master. Journeymen were qualified apprentices who had completed their time and remained working with the master, until they could become fully fledged master members of a guild and could set up their own businesses.

A central part of apprenticeship has always been the formal agreement between master and apprentice that governs the training and employment of the apprentices known as an indenture. Indenture documents spelled out the master–servant relationship that the apprenticeship entailed. Once signed, indentures became public documents, and as such, provided protection for both master and apprentice.

Because free settlers were few, the demand for skilled craftsmen was high and many convict tradesmen were offered pardons in return for their labour. To encourage the military officers and later free settlers to employ convicts, the government assumed the responsibility for clothing, feeding and housing them. Once transportation declined, these responsibilities fell to the employer. In Victoria, legislation which regulated apprenticeships also followed the British law. Apprenticeships in Queensland (which became independent of New South Wales in 1856) also followed British law where apprenticeships were based on a voluntary agreement between employers and apprentices. The first legislation anywhere in the Australian colonies governing apprentices that differed from British law was enacted in New South Wales in 1894.

By the end of the nineteenth century, apprenticeship systems were well established throughout Australia's colonies. Of course, apprenticeships underwent considerable change during the latter part of the century in line with the changes occurring in Britain as a result of the Industrial Revolution. These changes are described very briefly in box 2.[4]

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[4] A more detailed description of the establishment of the apprenticeship system in Australia's colonies is given in Beattie (1968), DEVET (1988), Gospel (1994), Pead (1981) and Ray (2001).

Box 2: The evolution of apprenticeships in the Industrial Revolution

The Industrial Revolution in Britain and Western Europe which introduced mass production of goods and materials in factories, witnessed the gradual demise of the specialist guilds and the positions in society that their members had held. Factory production meant that manufacturing ceased to be a home-based industry and that large numbers of employees were placed under the command of managers, foremen and leading hands. Training of apprentices took place at the factory and replaced traditional apprenticeships where apprentices lived at home with the master. The Industrial Revolution in Europe also increased the need for skilled and unskilled labour. Where craft guilds had protected tradesmen in the past, trade unions took on this role for workers in the new manufacturing or mining industries. During the Industrial Revolution trade unions came to enjoy a powerful position in the apprenticeship system through their ability to control recruitment practices.

2.3 Apprenticeships in the new federation

The Commonwealth of Australia was formally created in 1901. With federation the responsibilities for education and training remained with State jurisdictions. However, apprenticeships under federal awards (such as metal, electrical and boot trades, and apprentices in the defence forces, and in the public service) came under the jurisdiction of the Commonwealth Government, under the *Commonwealth Conciliation and Arbitration Act 1904*. As a result, the development of the apprenticeship system in Australia has been differentiated and has progressed independently in each State and Territory jurisdiction. However, Kirby (1985) noted that, although separate, the apprenticeship systems of the different States displayed many similarities.

At the beginning of the twentieth century some of the developments in apprenticeships set the scene for the regulatory frameworks that remain in force to the present time. For instance Beattie (1968, p.105) noted that the *New South Wales Apprentices Act 1901:*

- increased the minimum age for apprentices from 12 years to 14 years of age
- bound all apprentices by indenture and introduced a new 'model' form of indenture
- specified the persons who could bind apprentices under the act
- set the maximum term for an apprenticeship at seven years
- set the maximum age limit for an apprentice by requiring all apprenticeships to expire when the apprentice turned 21 years of age
- had a provision that no apprentice was to serve his master for more than 48 hours per week, with the exception of farmers and domestic servants

- established procedures for the settlement of differences and disputes between master and apprentice
- incorporated penalties for breaches of contract such as absenting without permission, and so forth

Beattie (1968) also described a further development in the first decade of the twentieth century that really entrenched apprenticeship as an integral part of the industrial relations system in Australia for the first time, setting the context for subsequent developments in apprenticeships in Australia throughout the twentieth century. This was the enacting of the *NSW Industrial Disputes Act 1908*. Beattie (1968) noted that under this act:

> *Apprentices received their first mention in industrial legislation, there being amongst the powers of a board the power to fix the appropriate number of apprentices (in the skilled workforce)… and the lowest prices and rates payable to them.* (Beattie 1968, p.106)

This type of legislation was typical of such provisions in other States.

Although individual States had specific arrangements for their apprenticeship system, each enacted legislation to ensure that important industrial matters (hours and conditions of work, rates of pay, entitlements to other benefits, and dispute resolution processes) were addressed.

In most States, the administration of apprenticeship was vested in an apprenticeship commission, board or equivalent body, often for particular trades. By way of example, Pead (1981) noted the *Victorian Apprenticeship Act 1928* as specifying that:

> *For each apprenticeship trade, the Commission was required to establish a Trade Committee consisting of equal numbers of representatives of employers and employees in that trade, with the President as Chairman.* (Pead 1981, p.10)

The arrangements established over the first 30 years of the twentieth century were extremely important in setting the foundations for Australia's modern apprenticeship system. For example, through representation of both employers and trade unions, the apprenticeship boards established industrial relations regulation frameworks for apprenticeships that remain to the present day.

Moreover, during the first half of the twentieth century these bodies were significant in developing off-the-job technical education courses for apprentices, day release arrangements to enable apprentices to attend such courses, and in ensuring that apprenticeships moved from being mainly 'on-the-job' training to include a significant technical education component.[5]

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[5] More information about the establishment and development of apprenticeships in Australia during this period can be found in Beattie (1968), Pead (1981), COSTAC (1987), DEVET (1988), Gospel (1994), Goozee (1995) and Ray (2001). A more detailed description of the development of regulatory and legislative arrangements covering apprenticeships and vocational education and training is given in Mitchell et al. (1999).

Reliable statistical information about the size of the apprenticeship system in Australia during this period is difficult to obtain. Each State and Territory administration collected data in different ways, using different definitions with different degrees of quality and reliability.

Pead (1981) reported that in 1935 there were 1555 apprentices in Victoria, which equated to some 0.08% of the Victorian population at that time. Of course the numbers may well have been higher in earlier decades of the twentieth century, since 1935 was the end of the Great Depression and employment rates were low at this time. Nevertheless, if we extrapolate this figure to Australia as a whole, then national apprentice numbers might have been in the order of 5500 to 6000 in 1935.

The apprenticeship system was stretched to the limit during the Second World War in an attempt to overcome the skills shortages created by the number of skilled tradespersons who were serving in the armed forces. Industry resorted to the use of 'dilutees' during the wartime period. Dilutees were people who had limited previous technical skills and experience, but who entered the industry for the first time during the war to boost the civilian workforce. Most dilutees were women.

2.4 Developments in the post-Second World War period

During the post-war boom the Commonwealth Reconstruction and Training Scheme (CRTS) was put into place to quickly retrain returning servicemen. This scheme demonstrated that adults could be trained as tradespersons in much shorter periods than the statutory periods applying to school leaver apprentices.

Also immediately after the war, the *Tradesmen's Rights Regulation Act 1946* was passed to protect the rights of pre-war tradesmen who had returned from service in relation to the dilutees and unqualified migrants who were beginning to arrive in Australia from Europe in increasing numbers.

The first 25 years after the Second World War was a period of unparalleled prosperity in Australia. It was a period of steady economic development fuelled by traditional exports such as wool and wheat. This period also saw a massive new influx of immigrants into Australia. There was low unemployment and employees were generally secure in their jobs. This meant that labour mobility was low. In this climate apprenticeship became the principal means for training in the skilled trades and was supported by unions and employers. Unemployment remained at levels of under 2% up until the beginning of the 1970s.

These developments paved the way for a major expansion in the numbers of apprenticeship opportunities in the immediate post-war period.

Again using estimates derived from the Victorian figures reported by Pead (1981), national apprentice numbers have been estimated by the National Centre for Vocational Education Research to have reached around 35 000 to 40 000 by 1950. Wright (1954) reported that: 'so far as we can judge from the information at our disposal there are (at 1953) probably between 65 000 and 70 000 apprentices in Australia at various stages of training' (p.11).

Because of the post-Second World War prosperity, the 1950s and 1960s were a period of relative stability in the development of the apprenticeship system. Various Commonwealth and/or State/Territory committees were established to examine the system, but little fundamental change occurred. Apprenticeship periods were shortened to four years and block release arrangements to allow apprentices to attend off-the-job training courses were extended.

The first national inquiry into apprenticeships commenced in 1952 under Mr Justice Wright. The report (Wright 1954) made a number of recommendations. An agreed outcome was to establish the first national apprenticeships training body in 1957—the Australian Apprenticeship Advisory Committee (AAAC). The AAAC comprised Commonwealth and State training authorities who met annually to discuss matters of mutual interest, and remained in place for 20 years until it was replaced by the Commonwealth and State Apprenticeship Committee (COSAC) and the Commonwealth/State Training Advisory Committee (COSTAC).

During this period the Commonwealth established the first national scheme for financial support of apprenticeships. The scheme—the Country Apprenticeship Scheme—involved a subsidy to employers of £3 per week during the first year of an apprenticeship for the employment of apprentices for country areas, together with the provision of living-away-from-home allowances for country apprentices. Expenditure over three years to 1966 under the scheme totalled £710 000.

Apprentice numbers expanded steadily throughout the 1960s to reach 100 000 nationally by the end of the 1960s (DEYA 1980).[6]

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[6] More information about the development of apprenticeships in Australia in the post-Second World War period can be found in Beattie (1968), Pead (1981), COSTAC (1987), DEVET (1988), Gospel (1994), Goozee (1995), Mitchell et al. (1999) and Ray (2001).

3 The modern era

3.1 Establishing a national approach in the 1970s

THE MODERN ERA in the development of apprenticeships in Australia really began in the early 1970s. As shown in table 1 the number of apprentices grew steadily from a little under 104 000 in 1970 to just over 115 000 by 1973. Apprenticeships covered around 1.3% of the working-age population (that is, 15 to 64 years of age) of Australia over this period.

The global impact of rapid rises in oil prices in the early 1970s had a major effect on the Australian economy. Unemployment doubled in the early 1970s, rising to levels unknown since the Great Depression of the 1930s. In particular, youth unemployment rose rapidly. National attention turned to the issue of how to increase training opportunities for young people to offset their rising levels of unemployment.

In response to these pressures, the Commonwealth Government established a national employer subsidies scheme in 1973 to encourage employers to put on additional apprentices, called the National Apprentice Assistance Scheme (NAAS). NAAS incorporated the pre-existing Country Apprenticeships Scheme and included living-away allowances for apprentices from country areas. Between 1973–74 and 1975–76 funding increased from about $6.5 million to $34.9 million (Kirby 1985, p.13). These developments represented a significant shift in Australian apprenticeship arrangements, paving the way for the development of a truly national approach to apprenticeships in Australia for the first time. NAAS was the first national scheme involving Commonwealth funding of apprenticeship and trade training in Australia. Up until this time 'ownership' of the apprenticeship system had rested with the industrial parties in conjunction with State governments. The latter particularly focussed on administrative and legislative issues.

As can be seen in figure 1, the introduction of national employer subsidies had an immediate effect on the number of opportunities being offered by employers to apprentices. The first wave of rapid growth in the modern era was experienced in Australia when apprentice numbers jumped by over 12% between 1973 and 1974 to reach a then record number of apprentices in training of 131 400 in 1974. The 1974 peak in apprentice numbers saw the coverage of apprenticeships reach just over 1.5% of the working-age population in Australia.

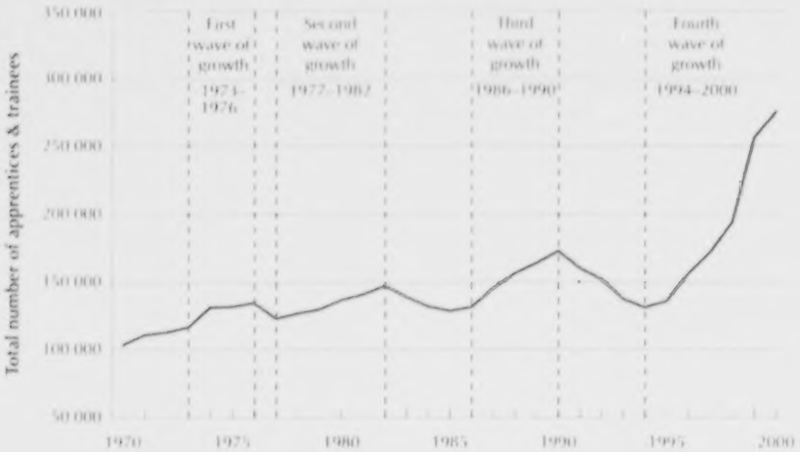
Table 1: Trends in apprenticeships and traineeships and new apprenticeships,* 1970–2000

Year	No. of apprentices ('000)	No. of trainees ('000)	Total no. of contracts of training ('000)	Total no. in training as a proportion of population aged 15–64 years (%)
1970	103.8	–	103.8	1.32
1971	111.0	–	111.0	1.35
1972	113.0	–	113.0	1.35
1973	116.7	–	116.7	1.37
1974	131.4	–	131.4	1.51
1975	131.9	–	131.9	1.49
1976	134.7	–	134.7	1.50
1977	123.2	–	123.2	1.35
1978	126.9	–	126.9	1.37
1979	129.9	–	129.9	1.38
1980	136.7	–	136.7	1.43
1981	140.8	–	140.8	1.45
1982	147.2	–	147.2	1.47
1983	138.8	–	138.8	1.37
1984	131.9	–	131.9	1.29
1985	128.6	0.0	128.6	1.23
1986	130.4	1.0	131.4	1.24
1987	138.9	6.4	145.3	1.34
1988	147.1	9.2	156.3	1.32
1989	151.7	12.2	163.9	1.36
1990	161.0	11.8	172.8	1.51
1991	151.0	9.2	160.2	1.39
1992	142.9	9.0	151.9	1.30
1993	122.7	14.9	137.5	1.17
1994	123.3	7.8	131.1	1.10
1995	123.8	12.1	135.9	1.13
1996	126.3	30.2	156.5	1.28
1997	123.8	48.1	171.9	1.39
1998	–	–	193.6	1.55
1999	–	–	254.8	2.01
2000	–	–	275.6	2.14

Note: * Number in training at 30 June each year. More detailed information giving commencements and completions from 1970 to 2000, as well as numbers in training at June 30 each year, is given in appendix 1, table 84.

Sources: DEIR (1986); DEYA (1980); NCVER (1998b); NCVER (2000a); NCVER (2000b) and NCVER (2000g)

Figure 1: **Periods of growth in apprenticeships and traineeships and new apprenticeships in the modern era, 1970–2000**



Sources: DEIR (1986); DEYA (1980); NCVER (1998b); NCVER (2000b) and unpublished data

The Kangan report on technical and further education of 1974, which recommended Commonwealth funding for technical and further education, was not only a key step in the development of a national vocational education and training system in Australia, it was also critically important in improving the facilities for trade training and apprenticeships nationwide (Kangan 1974). This is because by 1975 apprentices accounted for 20% of all enrolments in TAFE and an even higher proportion of the total teaching effort in TAFE.

The first wave of growth in apprenticeships in the modern era continued for three years. Apprentice numbers continued to exceed 130 000 for some three years reaching a peak of just under 135 000 in 1976, still some 1.5% of the Australian working-age population (see table 1).

The growth in apprenticeships during this period occurred in all of the main apprentice trades. In 1973 the main apprenticeship trades were the metal trades, the building trades, the electrical trades, the food trades and the vehicle trades. As shown in table 2, these trades accounted for 83% of all apprenticeships in 1973. By 1976 these same trades remained the main apprenticeship trades, and still accounted for just over 83% of all apprentices. Thus, the first wave of growth was related to increasing opportunities in the traditional trades, rather than to any change in the structure of the apprenticeship system.

Table 2: The occupational mix of apprenticeships, 1973 and 1976

Occupational group	No. of apprentices at 30 June ('000)		Proportion of total apprentices (%)	
	1973	1976	1973	1976
Metal trades	**42.2**	**48.5**	**36.2**	**36.0**
Building trades	24.0	29.8	20.6	22.1
Electrical trades	17.4	19.0	15.0	14.1
Food trades	6.6	7.7	5.6	5.7
Vehicle trades	6.6	7.6	5.6	5.6
Total of top five trades	**96.8**	**112.6**	**83.0**	**83.5**
Printing trades	4.7	4.3	4.0	3.3
Other trades including hairdressing	15.2	17.8	13.0	13.2
Total	**116.7**	**134.7**	**100.0**	**100.0**

Sources: DEYA (1980); DEIR (1986)

In 1977 apprentice numbers crashed to just 123 000. At this time concerns about the apprenticeship system heightened. The Commonwealth Government decided to replace NAAS with an enhanced scheme to support apprenticeships called the Commonwealth Rebate for Apprentice Full-time Training (CRAFT) in 1977. CRAFT provided rebates to employers to offset wage costs for the time spent by apprentices in off-the-job training in TAFE colleges or in other approved off-the-job training.

The scheme was more comprehensive than the NAAS scheme it replaced, and included bonuses to encourage employers to take on additional apprentices. Commonwealth expenditure on CRAFT was $15.8 million in 1977–78 which was the first year of the scheme.

It was during the late 1970s that the Commonwealth/State Apprenticeships Committee (COSTAC) was established to replace the AAAC that had been set up in the late 1950s. The focus of COSTAC was on the continued development of a national approach to apprentice policy, taking account of the continued role of each State/Territory jurisdiction for legislation, administration and day-to-day operations.

These developments contributed to the second wave of growth in apprenticeships which began in the late 1970s to reach a peak in 1982, as shown in figure 1. Apprentice numbers grew slowly from around 123 000 in 1977 to reach almost 130 000 by 1979. More rapid growth was experienced in the early 1980s with apprentice numbers reaching a peak of just over 147 000 by 1982 (see table 1).

Financial support of apprenticeships was also expanded considerably during this period. Expenditure on the CRAFT scheme reached some $42.7 million by 1979–80, some $64.0 million by 1980–81 and $78.8 million by 1981–82 (Kirby 1985, p.281).

During this period the Commonwealth and State/Territory training authorities took concerted national action to attempt to address skill shortages in the trades by encouraging expanded apprenticeship opportunities. This included the commencement of financial support for group apprenticeships and increases in pre-apprenticeship courses.[7]

Again this second wave of growth between 1977 and 1982 was characterised by continued growth in the traditional occupations then covered by the apprenticeship system in Australia. In 1977 the top five apprenticeship occupations were the metal trades, the building trades, the electrical trades, the food trades and the vehicle trades, accounting for 83% of all apprenticeships, as shown in table 3. In 1982 these same occupations made up the top five apprentice trades, still accounting for 83% of all apprenticeships in Australia.

Table 3: The occupational mix of apprenticeships, 1977 and 1982

Occupational group	No. of apprentices at 30 June ('000)		Proportion of total apprentices (%)	
	1977	1982	1977	1982
Metal trades	44.7	59.1	36.3	40.2
Building trades	25.3	26.1	20.5	17.7
Electrical trades	16.8	20.5	13.6	13.9
Food trades	7.9	9.9	6.4	6.7
Vehicle trades	7.3	6.5	6.0	4.4
Total of top five trades	**102.0**	**122.1**	**82.8**	**82.9**
Printing trades	3.6	2.9	2.9	2.0
Other trades including hairdressing	17.6	22.2	14.3	15.1
Total	**123.2**	**147.2**	**100.0**	**100.0**

Source: DEIR (1986)

The recession of 1982–83 was a major setback for many Australian industries. One of the worst to be affected during the recession was the engineering industry, with many apprentices in the metal trades losing their jobs. Particularly badly affected were apprentices in the boiler-making and welding trades. As well as affecting the commencements and completions of apprenticeships in the traditional trades, these periods of recession had a major impact on the employment outcomes for young people.

Apprenticeship numbers plummeted at this time falling from over 147 000 in 1982 to just under 132 000 two years later (see table 1).

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[7] More information about these developments is given in DEYA (1982), DOLAC (1980) and Ray (2001).

3.2 Establishing traineeships: 1982–1985

By the early 1980s there was also heightened concern about persisting unemployment. Despite improved economic conditions in the second half of the 1970s, unemployment in Australia reached almost 6% by August 1980, well above the unemployment rates of less than 2% that Australia had enjoyed for most of the post-Second World War period.

The 1982–83 recession saw unemployment jump to almost 10% by August 1983. As Robinson (1999) reported:

> *At that time there was particular concern for the changing fortunes of young people in the Australian labour market. The unemployment rate for teenagers aged 15–19 years rose from 3.2% in August 1970 to 22.6% by August 1983—a sevenfold increase. Persons aged 20–24 years were also facing a deteriorating labour market, with their unemployment rate having risen from 1.6% in August 1970 to 14.7% by August 1983.* (Robinson 1999, p.36)

These developments led the Commonwealth Government to establish a national inquiry into labour market programs, chaired by Peter Kirby. The inquiry was asked to examine the extent to which the training needs of the economy were being met by existing arrangements and to examine the adequacy of existing programs in meeting the employment and training needs of different groups within the community. There was a focus on young people in the inquiry in relation to the deteriorating labour market situation and the role education and training could play to alleviate the situation. Thus, a review of the apprenticeship system in this context was central to the inquiry.

The report of the inquiry (Kirby 1985) identified a number of concerns about the existing apprenticeship system, particularly in relation to its potential to address the deteriorating labor market for young people. First and foremost, the system was found to be concentrated on a few traditional trades, making the number of apprenticeships heavily dependent on the state of the economy in a narrow range of industries, some of which were in long-term decline. Moreover, apprenticeship training was not being established in new and growing areas of the labor market.

The second key concern identified by Kirby (1985) was that the apprenticeship system, by focussing only on the traditional trades, was excluding most groups of people other than able-bodied, young Anglo-Saxon males, from important structured training opportunities. Only 10% of apprenticeships were undertaken by women at the time, mostly in hairdressing. Disabled persons, Indigenous people and some other groups in the Australian community were also under-represented in the apprenticeship system.

This meant that the apprenticeship system was failing to provide training opportunities for the many young people leaving school at Year 10 or earlier without qualifications and seeking work in areas of the labor market other than in the traditional trades. To address these concerns, the centerpiece of the Kirby recommendations was to propose the establishment of a system of new traineeships for Australia. These traineeships were intended to complement apprenticeships and would be a similar training system in many respects. They were intended to become the main way to respond to the needs of young people who reached school leaving age and tried to enter the workforce with no specific vocational preparation. The full recommendation of the Kirby inquiry is provided in box 3.

Box 3: Recommendation for a new traineeship system for Australia by the Committee of Inquiry into Labour Market Programs

Recommendation 22

The new traineeship system should have the following basic features:

- *i)* *formal off-the-job education and training complemented by work in a related occupation;*
- *ii)* *the target group initially should be those aged 16 and 17 who have left school before completing Year 12 and there should be equal access for females and males;*
- *iii)* *traineeships should be of a minimum of one year's duration with a minimum of 13 weeks off-the-job training covering broad-based skills relating to families of occupations. The on-the-job training should be flexible in content, duration and attendance patterns;*
- *iv)* *trainees should be contracted to individual employers or State-regulated group-training schemes;*
- *v)* *income support should be provided through privately negotiated wages which take into account the value of the training to the trainee, the trainee's productivity and other relevant factors;*
- *vi)* *there should be contracts of training, administered by the State training authorities;*
- *vii)* *training arrangements and conditions should be consistent across States and Territories;*
- *viii)* *the Commonwealth should lead and co-ordinate the development of the traineeship system;*
- *ix)* *TAFE should be the predominant provider of the off-the-job component, but industry and private organisations should be encouraged to participate in this training;*
- *x)* *the program should be appropriately accredited and provide avenues to further accredited education, training and employment;*
- *xi)* *in 1985 there should be a national conference on the proposal, followed by a White Paper and legislation and pilot programs;*
- *xii)* *the target should be at least 75 000 traineeship places by the end of 1988; and*
- *xiii)* *an appropriate recruitment incentive in the form of a wage subsidy should be introduced to ensure that especially disadvantaged young people are able to participate in the system.*

Source: Kirby (1985), pp.119–20

In addition, Kirby (1985) found that the quality of the apprenticeship system was dependent on the types of skills, capacities, facilities and supervision that employers brought to the training. Kirby concluded that the apprenticeship system should be primarily a system for delivering training, rather than for delivering employment. Kirby recommended the development of national common core curricula and competency standards for the trades, basic trade manuals and on-the-job training guides.

Traineeships would provide 'a stepping stone into primary labour market jobs' (Kirby 1985, p.114), and would combine learning and working in a similar way to apprenticeships. However, traineeships would apply to non-trade occupations. Aimed at 16 to 17-year-olds who had not completed Year 12, the traineeships would take about 12 months to complete and include a minimum of 13 weeks off-the-job formal training, which could be undertaken as a 13-week block or two days per week release. Employers were not liable for the time that trainees spent in off-the-job training. The wage represented 75% of the normal wage for employees of a similar age.

The Australian Traineeship System (ATS) was introduced in 1985 in response to those recommendations. A target of 75 000 trainees by 1988 was established.

3.3 The apprenticeship boom of the late 1980s and early 1990s

The period following the Kirby inquiry saw the third wave of growth in structured training in the modern era. As can be seen from table 1, this growth far outstripped that seen in the first or second waves of growth in 1970s and early 1980s.

Apprenticeship and traineeship numbers grew from under 129 000 in 1985 to almost 173 000 by 1990. This represented a massive 35% increase in the numbers gaining structured training opportunities in just five years. Commonwealth financial support for apprenticeships and traineeships, especially for subsidies to encourage employers to offer structured training places, increased substantially over this period. Such assistance grew from $122.7 million in 1984–85 to $165.5 million in 1989–90 (DEET 1990, p.55).

However, surprisingly in relation to this growth was that, despite the introduction of traineeships during this period, little of the growth was actually in traineeships themselves. As can be seen from table 1, traineeship numbers grew from almost zero in 1985 to just under 12 000 in 1990. This was a far cry from the 75 000 traineeships by 1988 that were envisaged by the Kirby inquiry.

By 1990 traineeships still only accounted for some 6.8% of all contracts of training (that is, apprenticeships and traineeships) in Australia. Apprenticeship numbers, on the other hand, reached 161 000 by 1990, having grown from under

130 000 in 1985. The 1990 level set a new all-time record number for apprenticeship places, far surpassing any previous levels of apprenticeships in Australia.

The growth between 1985 and 1990 was mainly brought about by the improving economic situation at the time, rather than by the reforms to Australia's structured training arrangements that were also occurring during this period.

Table 4: The occupational mix of apprenticeships and traineeships, 1985 and 1990

Occupational group[a]	**No. of apprenticeships and traineeships at 30 June ('000)**		**Proportion of total apprenticeships and traineeships (%)**	
	1985	1990	1985	1990
Metal trades	44.5	29.6	34.6	17.2
Electrical trades	18.3	23.3	14.2	13.5
Building trades	21.9	32.6	17.0	19.0
Vehicle trades	6.0	27.1	4.7	15.7
Food trades	11.0	14.3	8.6	8.3
Hairdressing	12.4[b]	13.2	9.6	7.6
Total of top six	**114.1**	**140.1**	**88.7**	**81.3**
Managers & administrators	0.0	0.1	0.0	0.1
Professionals	0.0	0.0	0.0	0.0
Para professionals	0.0	0.1	0.0	0.1
Printing trades	3.4	4.5	2.6	2.6
Horticulture	na	3.5	na	2.0
Other miscellaneous	11.2[b]	12.8	8.7	7.4
Clerks	0.0	7.4	0.0	4.3
Sales persons & personal services workers	0.0	2.8	0.0	1.6
Plant & machine operators and drivers	0.0	0.6	0.0	0.3
Labourers and related workers	0.0	0.9	0.0	0.5
Total	**128.6**	**172.8**	**100.0**	**100.0**

Notes: na=not available

(a) From 1988 onwards, changes were made to occupational groupings. These included the removal of horticulture from the other miscellaneous group to be made a separate category, the transfer of the trade vehicle mechanic from the metal trades group to the vehicle trades group and the identification of hairdressing as a separate category from the miscellaneous group.

(b) Estimated by NCVER.

Sources: NCVER (1998b); NCVER (2000a)

By 1990 contracts of training were still concentrated in apprenticeships in the traditional trade areas and in hairdressing. As shown in table 4, by 1990 the top six occupational groups for contracts of training were the metal trades, the building trades, the vehicle trades, the electrical trades, the food trades and hairdressing. These were the same top six occupational areas for apprentices and trainees as existed in 1985. However, the proportion of all apprenticeships and traineeships that these top six occupational groups accounted for fell from

89% in 1985 to 81% by 1990. This drop in the domination of the traditional trades was the result of the gradual roll-out of traineeships into some new areas of the labour market.[8]

The reasons for these trends of slower than expected growth in traineeships and record growth in apprenticeships are both complex and puzzling. The record growth in apprenticeships in the late 1980s can be related to changes in the economic cycle that saw very strong growth in the Australian economy in the mid-to-late 1980s. Robinson (1999) argued that it was also quite possible that the prominence given to structured training by the Kirby inquiry had exerted an impact on increasing demand for apprenticeships during the second half of the 1980s. This period subsequent to the Kirby inquiry saw unprecedented national marketing campaigns to promote the notion of training which included a work component to young Australians. This led to a renewed interest in training which combined work with study, which translated itself into higher demand for apprenticeship places in the late 1980s because of the very slow roll-out of traineeships in the early years.

When examining reasons for the much slower than expected roll-out of traineeships, Robinson (1999) argued that the 'demand-side' factors such as:

> *the very slow take-up of traineeships until the mid-1990s is most frequently thought to have been caused by*
>
> - *wider labour market changes, including the global impact, which has mitigated against youth employment generally;*
> - *an unwillingness by employers to offer traineeships to young people for a variety of reasons including preferring more experienced and already trained workers in 'tight' labour markets that had persisted for nearly two decades at that time;*
> - *a perception of an initial period of 'recalcitrance' on the part of those involved in the industry, legislative and bureaucratic process required to enable the roll-out of traineeships across all industries.* (Robinson 1999, p.43)

However, Robinson (1999) argued that at least part of the explanation for the slow uptake of traineeships might also be due to 'supply-side' factors, that is, the preferences of young people themselves and their families for alternative options. He noted that, since the Kirby inquiry, the patterns of young people's participation in work and study have changed completely in Australia to the point where, by 1997, some 280 000 teenagers were combining work with study through employment (mainly part time) in various types of jobs and enrolment in education or training courses on a full- or part-time basis outside the apprenticeship system. This phenomenon was not evident in the early 1980s.

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[8] A detailed description of the traineeship system developments from 1984 to 1990 is given in Ray (2001, pp.23–6) and Robinson (1999).

Robinson (1999) also argued that the rate of growth in this trend must have had an impact on the potential pool of young people seeking structured training through traineeships. Young people themselves found new ways of combining work with study outside the Australian Traineeship System, and outside the traditional apprenticeship system.

3.4 The impact of the early 1990s recession

The recession in the Australian economy of the early 1990s had a tremendous impact on apprenticeship and traineeship numbers. The numbers in a contract of training fell by 25% in just four years, from nearly 173 000 in 1990 to a ten-year-low level of 131 000 by 1994 (table 1).

The slow roll-out of traineeships over the late 1980s and early 1990s had led government to question the validity of the traineeship system itself. For instance, the Department of Employment, Education and Training (1991) stated:

> *Traineeships are seen to be of lower status than apprenticeships and tend to be in occupations employing a high proportion of females. Traineeships are often seen as an alternative to Years 11 and 12 for the less able, as a transition from school to work or a labour market program for the disadvantaged.* (DEET 1991, p.9)

While these observations may have been true, it is clear that the principal reason for the slow roll-out of traineeships in the first half of the 1990s related to the sluggish economic conditions that prevailed at the time. The numbers in the 'favoured' apprenticeships crashed from an all-time peak of 161 000 in 1990 to 123 000 by 1994 (table 1).

A number of reforms were made to the apprenticeship and traineeship systems in the first half of the 1990s that were part of the general reform of the Australian training system begun in the late 1980s. These included various alterations to the subsidy arrangements for employers, the development of competency-based training and the removal of age restrictions for employment of apprentices. Many of these changes were designed to improve access to apprenticeships and to extend coverage of traineeships to other industries.

Because employers had been very slow to take up traineeship options during the early 1990s, the Commonwealth Government introduced a number of initiatives during 1994 and 1995 designed to increase the numbers in traineeships. These developments were part of the *Working nation* initiatives (see Natarajan & Misson 1995; Ray 2001). These initiatives included:

- introduction of a national training wage to encourage the uptake of more trainees, particularly from the ranks of the adult unemployed
- an increase in the number of entry-level traineeship places particularly in new industries and occupations and in small business
- accrediting training delivered and assessed fully on the job, with a relaxation of the mandatory requirement to attend off-the-job training such as at TAFE

- extending traineeships beyond the equivalent of certificate I and II qualification levels to enable traineeships at the equivalent of certificate III and higher levels
- the establishment of the National Employment and Training Taskforce (NETTFORCE) to encourage employers to take on more traineeships

Ray (2001) argued that:

> *Because of their quantitative impact on the training system, the introduction of NETTFORCE traineeships would also rank as a landmark event in the history of apprenticeships and traineeships.* (Ray 2001, p.28)

The Australian Vocational Training System (AVTS) was established following the release of the Australian Vocational Certificate Training System report (Carmichael report) in 1992. Carmichael (1992) proposed the consolidation of apprenticeships and traineeships into one system, and included for the first time, the proposal that schools could participate in apprenticeships and traineeships. It was also proposed that a series of stepped qualifications under a competency-based Australian Standards Framework should be introduced, which could cover all workers who did not have higher qualifications.

3.5 The recent surge in traineeships and new apprenticeships: 1995–2000

The fourth wave of growth in Australian apprenticeships and traineeships in the modern era began in the mid-1990s. This has been by far the biggest ever seen in the history of Australian apprenticeships/traineeships, as table 1 demonstrates. Apprentice and trainee numbers have increased from just over 131 000 in 1994 to reach over 275 000 in June 2000, a growth of over 100% in just six years.

Looking more closely at the changes over the past five years, the number of apprentices and trainees grew rapidly from 135 900 in 1995 to some 172 000 by 1997 (see table 5).

With the advent of new apprenticeships in 1998 we have seen an even more dramatic growth in apprentice numbers—from almost 194 000 in June 1998, to over 275 000 by June 2000. In terms of absolute numbers this has been by far the largest rate of growth ever experienced in the apprenticeship/traineeship system in Australia.

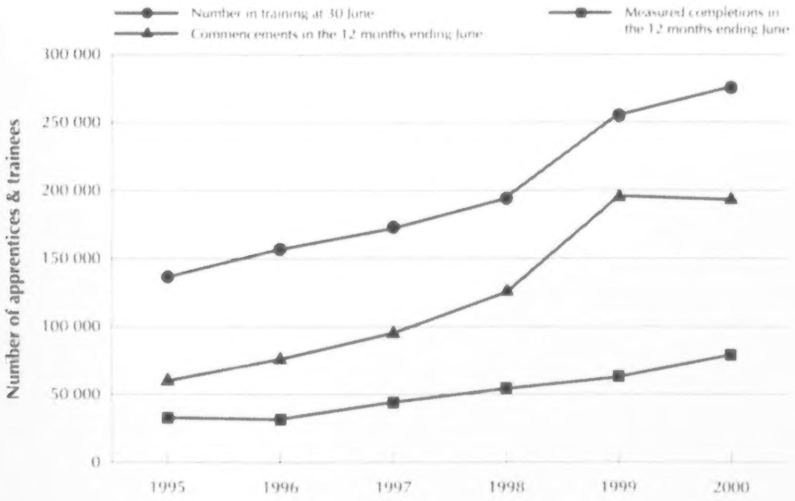
The even more rapid growth in the number of commencements of new apprenticeships has fuelled this growth in apprentice and trainee numbers, as can be seen in figure 2. Apprentice and trainee commencements grew strongly from 60 000 in 1995 to reach over 95 000 by 1997. Between 1997 and 1999 new apprentice commencements more than doubled reaching 193 000 during the 12 months ending June 1999.

Table 5: **Apprentice and trainee and new apprentice commencements, numbers in training and completions, 1995–2000**

Year	Commencements in the 12 months ending June ('000)	No. in training at 30 June ('000)	Measured completions in the 12 months ending June ('000)
1995	60.0	135.9	32.9
1996	76.1	156.5	31.7
1997	95.4	171.9	44.4
1998	125.3	193.6	53.9
1999	195.7	254.8	62.4
2000	178.4	275.6	73.7

Source: NCVER (2000g)

Figure 2: **Apprenticeships and traineeships and new apprenticeships training activity, 1995–2000**



Source: NCVER (2000g)

However, in the 12 months ending June 2000, commencement numbers fell to 178 000, the first fall in commencement numbers since 1995. This means that growth in new apprentice numbers overall cannot be expected to continue to increase at the very rapid rates experienced in recent years. Some falls in total new apprentice numbers are likely in the near future.

Measured completions have also grown very strongly in the past five years, more than doubling between 1995 and 2000. They grew from 33 000 for the 12 months ending June 1995 to reach 44 000 in 1997. Since new apprenticeships commenced, completions grew rapidly to over 70 000 in the 12 months ending June 2000. Completions are discussed in more detail in chapter 7 of this report.

Most of the expansion in apprentice and trainee numbers has been the result of the belated roll-out of traineeships since the mid-1990s into areas of the labour market that encompass some of the largest occupations in Australia, but had previously not been covered by apprenticeships. This included areas such as clerical, retailing and the rapidly growing service industry occupations. For instance, apprentice and trainee numbers in clerical, service and sales occupations increased from some 10 000 in 1995 to almost 82 000 by June 2000. These changes are examined in more detail in chapter 5 of this report.

Despite the substantial growth of traineeships in these new areas for contracts of training since the mid-1990s, the second half of the 1990s was also a period of recovery in the numbers in apprenticeships in the traditional trades. Although it is no longer possible to distinguish apprenticeships from traineeships in national statistics because of national decisions to integrate the apprenticeship and traineeship systems, NCVER figures show that this recovery has been so strong that, by June 2000, the numbers of new apprenticeships in the traditional skilled trades and related occupations reached almost 140 000. This category is the closest to what used to be called traditional trades apprenticeships. This figure is consistent with Australian Bureau of Statistics estimates of 138 200 apprenticeships in May 2000 (ABS 2000b). The growth in apprenticeships reflects the across-the-board improvement in the Australian economy in the second half of the 1990s.

It should be borne in mind that such levels of traditional skilled trades apprentices (and related new apprenticeships) are amongst the highest ever seen in Australia. Only in two previous periods in the history of apprenticeships in Australia have the numbers in training been higher. Apprentice numbers exceeded 140 000 in the period 1980 to 1982 (with a peak of 147 200 in 1982). Apprentice numbers also exceeded 140 000 in the 'boom period' lasting from 1988 to 1990, with an all-time record high of 161 000 apprentices in 1990. Apprenticeships in these periods were all in the skilled trades and related occupations.

During the second half of the 1990s, Commonwealth financial assistance for employer subsidies to promote apprenticeships and traineeships also increased rapidly to support the growth of the system. Such funding allocations increased from $209.7m in 1994–95 (DEET 1995, pp.116–17) to $477.2m in 2000–01. According to figures supplied by the Department of Education, Training and Youth Affairs this total of $477.2m comprises:

- $369.4m for employer incentives for new apprenticeships
- $63.0m for New Apprenticeships Centres (NACs) in the employment services market

- $14.0m for new apprenticeships implementation
- $18.7m for the New Apprenticeships Access Programme
- $8.9m for New Apprenticeships Workforce Development
- $3.1m for the Tasmanian Environment Tourism and Training Initiative

Total government expenditure by the Commonwealth Government and State and Territory governments is estimated to be in the order of well over $1 billion per year. The subsidy arrangements as at July 2000 are described in appendix 4. This figure also includes some $600 million out of the total operating expenditure of TAFE and other vocational education and training providers (funded by Commonwealth Government and State and Territory governments) which the NCVER estimates to be a minimum devoted to the training of new apprentices in 1998 (NCVER 2000a, p.12).

The most profound development in Australia's apprenticeship system since the establishment of traineeships was the decision to create the new apprenticeship system in Australia. Apprenticeships and traineeships were brought together under the umbrella of new apprenticeships at the beginning of 1998. New apprenticeships were a national commitment to dispense with legislative and administrative distinctions between the formerly different training systems.

The new system increased the flexibility available under contracts-of-training arrangements across Australia. New apprenticeships were designed to fully integrate apprenticeship/traineeship arrangements into the new Australian Qualifications Framework (AQF) and national training packages (which specified in a nationally consistent way the competencies and qualifications for all training covered by new apprenticeships). New apprenticeships also led to an agreement to abolish declared vocations in all jurisdictions except New South Wales, in order to eliminate legislative differences between the treatment of apprentices and trainees. New apprenticeships now embrace a range of contracts of training from AQF I to IV (with occasional contracts of training at the diploma level). New apprenticeships also have flexible durations of training, with contracts generally lasting in duration from one to four years.

A key feature of the new apprenticeship system was the introduction of 'user choice' arrangements. From January 1998, off-the-job training for apprenticeships has been open to competitive processes and no longer a monopoly of the TAFE system. User choice was designed to aid the opening-up of the training market following the introduction of national competition policy, as in most areas of government responsibility. User choice extends the policy, already adopted for traineeships, of allowing employers and trainees to select their preferred provider for the off-the-job portion of training, and negotiate over the content, sequencing and delivery of the training. Government funding for this part of the training flows directly to the selected training provider (see Noble et al. 1997 and Smith & Keating 1997 for discussion of the impact of these changes).

User choice was designed to provide greater market power to employers and trainees to negotiate with training providers, public and private, over the supply of off-the-job training and the way in which it is delivered. This was done in order to increase responsiveness on the part of training providers to the needs of employers and trainees so that training will more effectively match the demands of clients.

Despite concerns that employers and trainees might be confused about the new arrangements under user choice, an evaluation of the policy by ANTA (2000) found that the system is working well from the viewpoint of employers who have taken advantage of the new system. Employers are happy with the new arrangements and are actively using the freedom to negotiate more effective training provision with providers. There has been some move towards private providers in the apprenticeship system as a result; however, most employers have elected to remain with their traditional providers but have used the opportunity afforded by user choice to negotiate changes to the delivery patterns and the content of the off-the-job training. Whether the system has had much success in empowering apprentices remains to be seen.

Another prominent feature of the mid-to-late 1990s apprenticeship and traineeship landscape has been the greatly increased importance of the group training companies. Originally established as a means of extending apprenticeship training to companies not large enough to afford to employ an apprentice directly, group training companies employ apprentices and trainees and arrange their off-the-job training, sending them to host employers who lease them for a weekly fee (Harris et al. 1998). Sometimes the apprentices and trainees experience a number of host employers, but in many cases they stay with one employer for the complete period of their contract. Because the employers do not employ apprentices and trainees directly, they no longer need to be cautious about taking on an apprentice or trainee in case of a downturn in business. Although group training companies have been in existence since the early 1980s, the numbers of apprentices and trainees employed by them have risen rapidly in the mid-1990s. The proportion of apprentices and trainees being employed by group training companies rose to 38 000 by 2000, or some 14% of all new apprentices.[9]

The number of commencements, the number in training and the number of completions from 1970 to 2000 is shown in appendix 1, table 84.

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[9] More information about the development of apprenticeships and the introduction of traineeships and new apprenticeships in the modern era can be found in Freeland (2000), Goozee (1995), Gospel (1994), Mitchell et al. (1999), Robinson (1999), NCVER (2000c) and Ray (2001).

4 The Australian system in an international context

INTERNATIONAL COMPARISONS ARE always difficult to make in the field of vocational education and training because institutional and cultural differences between countries mean that common concepts such as apprenticeship can vary quite radically from one country to another. In Europe, for instance, apprenticeship varies from the relatively laissez-faire system now operating in the United Kingdom to the highly regulated 'dual' systems typical of Germany, Austria and Switzerland. Training in apprenticeship similarly varies from the largely on-the-job orientation of the British and Dutch systems to the classroom-based system in France.

Up until now, discussions about apprenticeship training have focussed primarily on youth. The recent thematic review of entry-level training carried out by the Organisation for Economic Co-operation and Development (OECD) (2000a), examined the participation of young people in apprenticeships in 14 member countries. A summary of the findings for each of the countries is presented in box 4 (page 30). However, a sole focus on youth transition from education to work can lead to flawed international comparisons of the operation and development of apprenticeship as a specific form of training.

According to the OECD, there are three principal pathways which young people follow after the completion of their compulsory education (OECD 2000a).

- *apprenticeship-type:* provision of an occupational qualification
- *school-based vocational pathways:* provision of upper secondary level occupational qualification followed by labour market entry
- *general education:* preparing young people for tertiary study

The distribution of upper secondary students amongst these different pathways in each OECD country is shown in table 6 (page 33).

Box 4: Apprenticeships and youth participation in OECD countries

Australia	*The number of teenagers taking part in traditional four-year apprenticeships—predominantly in areas such as manufacturing, construction and public utilities—fell by 44% between 1989–90 and 1996. Shorter one-year traineeships largely in service and white collar areas were introduced in 1985, and the annual number of teenagers commencing these had by 1996 grown to around 70% of the numbers commencing the longer apprenticeships. The combined numbers of teenagers entering either form of contractual training fell by around a quarter between 1989–90 and 1996. Offsetting this there has been growth of around 300% from a small base, in the number of young adults taking part in apprenticeship-type programs.*
Austria	*The proportion of the cohort who enter apprenticeships has been falling during the 1990s: from 47% in 1990 to 40% in 1995, and there has been further decline since. At the same time participation has risen in school-organised vocational education programs which involve shorter periods of workplace experience.*
Canada	*Apprenticeship in Canada has traditionally been confined to a small number of occupations and has been entered largely by young adults with some work experience rather than by young people. Attempts to revive youth apprenticeships during the 1990s have met with limited success.*
Czech Republic	*The traditional apprenticeship model centred around vocational schools closely linked to large state-owned enterprises largely collapsed after 1989, and has largely been replaced by school-based vocational programs.*
Denmark	*The proportion of young people entering a vocational education program stayed roughly stable during the 1990s. As a proportion of all upper secondary students, those in vocational programs, of whom some three-quarters are apprentices, fell from 56% in 1990–1991 to 53% in 1995–96.*
Finland	*During the 1970s and 1980s the number of apprenticeship contracts in Finland was comparatively low, varying between 3000 and 8000 apprenticeships per year. With new legislation in 1992 the status of apprenticeships was strengthened and the number of apprentices has risen sharply to 17 900 in 1996 and 25 500 in 1998. The majority of these have so far been adults, whose training is subsidised through the European Social Fund and other public finances. By the year 2000 it is intended that 20% of the yearly intake of young people in upper secondary vocational education and training will be provided with apprenticeship places.*

Box 4: Apprenticeships and youth participation in OECD countries (cont.)

Hungary	*The traditional apprenticeship model centred around vocational schools closely linked to large state-owned enterprises collapsed after 1989, and was largely replaced by school-based vocational programs. However, in recent years Hungary has put in place the framework for a new national apprenticeship system closely modelled on the German dual system, including a strong role for employers' chambers in quality control and requirements for all firms to belong to these chambers. As yet it is too early to assess the impact of these major reforms.*
Japan	*Not applicable. Since apprenticeship or its equivalent are not significant institutions within Japan's training or transition frameworks.*
Norway	*Like Canada and the United States apprenticeship in Norway has traditionally been entered by young adults with some work experience rather than by young people. Major reforms in 1994 introduced a new apprenticeship model with a standard attendance pattern in which two years of full-time schooling is followed by two years in the firm. As part of the reforms new broader curricula were introduced, apprentices' wages were reduced from roughly 80% to 50% of a skilled worker's, and employer subsidies were restructured. In the first year of the new arrangements the number of new apprenticeship contracts rose by 22% and young people's share of these rose from 21% to 36%. Roughly a quarter of all those who commence upper secondary education enter the apprenticeship track.*
Portugal	*The number of apprentices in Portugal represents 5% or less of the number of secondary education students. The total number of apprentices doubled between 1990 and 1993, but fell between then and 1996 to only around 30% more than the numbers in 1990.*
Sweden	*In 1970 Sweden abolished apprenticeship as the dominant model by which young people received vocational education and training, and replaced it with school-based vocational education programs. In 1998, a small number of pilot programs of a 'New Modern Apprenticeship System' were introduced. Those who take part in them remain students rather than becoming employees and are unpaid. Substantial control of the programs remains with the school, and students taking part in school-based vocational courses in the same occupational or industry area. Unlike students in standard school-based vocational programs those in the pilot programs spend 50% rather than 15% of their time in the enterprise over three years with provision for the in-firm training period to be extended for a fourth year.*

Box 4: Apprenticeships and youth participation in OECD countries (cont.)

Switzerland	*The proportion of young people entering upper secondary vocational education and training has varied over the past decade, ranging between 64% and 80%. Of these about 85% are in apprenticeship. However, there are significant variations by gender and regions. Apprenticeship is more developed in the German-speaking parts of Switzerland and young men participate more frequently and in more programs that lead to higher-level qualifications than young women. In the German-speaking parts of Switzerland almost 87% of all young people in upper secondary vocational education and training were apprentices in 1997. The comparable proportion in the French and Italian-speaking regions has increased from 30% in 1970 to around 42% in the late 1990s, but young women represent three-quarters of those 7% of upper secondary students who participate in one year apprenticeships*
United Kingdom	*The numbers in apprenticeship-type programs declined steadily in the United Kingdom between the mid-1960s and the beginning of the 1990s. As an example, the number of apprentices in manufacturing fell from 240 000 in 1964 to 54 000 in 1990 (Gospel 1994). Modern Apprenticeships were launched as a national initiative in 1995. They are to provide young people aged 16–25 with training leading to NVQ/SVQ skills at level 3 or more. In February 1998 there were 117 000 Modern Apprentices in England and Wales. Modern Apprenticeships are regulated by training frameworks designed for each sector by employers in conjunction with the relevant national training organisation and the Department of Education and Employment.*
United States	*As in Canada, apprenticeship in the United States has traditionally been confined to a small number of occupations and has been entered largely by young adults with some work experience rather than by young people. Attempts during the 1990s in some states to revive youth apprenticeships appear to have been marginal in their impact.*

Source: OECD 2000a, pp.102–4

Table 6: Estimated distribution of upper secondary students by the main education and training pathways after compulsory education (1996 or closest year)

Thematic review countries	Pathway Apprenticeship-type	School-based vocational	General education
Australia	3	2	94
Austria	41	37	22
Canada	1	5	94
Czech Republic	Included in another column	82	18
Denmark	44	14	42
Finland	5	47	48
Hungary	Included in another column	68*	32
Japan	Not applicable	26	74
Norway	25	27	48
Portugal	4	32	64
Sweden	Magnitude either negligible or zero	60	40
Switzerland	60	9	31
United Kingdom	24	33	43
United States	Magnitude either negligible or zero	12	88
Belgium	3	65	32
France	11	43	46
Germany	52	24	24
Greece	Magnitude either negligible or zero	32	68
Ireland	5	15	80
Italy	Not applicable	72	28
Korea	Not applicable	42	58
Netherlands	23	47	30
New Zealand	8	30	62
Poland	Data not available	69	31
Spain	2	37	61

Note: * In Hungary some one in four upper secondary students are found in lower vocational (trade) schools, and are often referred to in national sources as apprentices, although the combinations of school-based and practical training they undertake are often more similar to school-based vocational programs in which the young person has the status of a student, than to apprenticeships in which the young person has the status of an employee and takes part in a contract of employment and training. The closure of many former state-owned enterprises whose facilities were formerly used for practical training resulted in some two-thirds of all workshop training occurring in school in the mid-1990s, compared to less than one-third in 1990. Growth in the number of small firms, on the other hand, has created new opportunities for practical training by self-employed craftsmen. It is not clear how many of the latter category are formally indentured as apprentices. As a result they are included in the school-based vocational category.

Source: OECD (2000a)

In 1996, after the first year of post-compulsory education, 94% of young Australians at 16 years of age were enrolled in general education programs, 2% were enrolled in school-based programs and only 3% were in apprenticeship-type programs (table 6). Only three young Australians in every 100 participated in apprenticeship training while at least 40% of young Austrians and Danes entered apprenticeship training following compulsory education. In addition, more than half of young Swiss and Germans and about a quarter of young Norwegians, English and Dutch were involved in apprenticeship-type training after the completion of compulsory education.

The OECD thematic review of education-to-work transition also classified member countries into four main groups (McKenzie 2000).

- *apprenticeship* countries in which more than 50% of young people participate in apprenticeship-type arrangements (for example, Germany and Switzerland)
- *quasi-apprenticeship* countries in which between 20 and 50% participate in apprenticeship-type programs, and less than 50% in general education programs (for example, Austria, Denmark and Norway)
- *school-based vocational education* countries in which more than 50% are in vocational programs, but less than 20% in apprenticeships (for example, the Czech Republic, France and the United Kingdom)
- *general education* countries in which more than 50% take part in general education programs (for example, Australia, Japan and the USA)

Therefore, based on these observations, if apprenticeship training were the primary mechanism for youth training, then by international standards, Australia's apprenticeship system is not performing well compared to most other OECD countries.

However, this comparison gives a distorted picture of the situation. In Australia participation in apprenticeship training increases with age. Most young Australians who are going to enter the apprenticeship system have not yet done so in the first year of post-compulsory schooling, noting that 45% of all teenagers who are employed full time are now in a new apprenticeship. Furthermore, over half of apprentices who were undergoing apprenticeship training during 2000 were 20 years of age or older. Hence, to put the achievements of the Australian apprenticeship system into an international context, the focus of apprenticeship training should be wider than examining the situation after the first year of post-compulsory schooling.

The following section aims to put the achievements of the Australian apprenticeship system into a more meaningful perspective by comparing the size, scope and background of apprenticeship systems in different countries for the total working-age population.

4.1 Modern apprenticeships in the United Kingdom

In the United Kingdom, the traditional apprenticeship system has undergone radical change since the early 1980s. The industrial relations and training reforms of the United Kingdom government during the 1980s and early 1990s, together with the decline in manufacturing industry, resulted in the almost complete disappearance of the traditional apprenticeship system in the late 1980s and early 1990s. Numbers of traditional apprentices declined from more than 350 000 in 1985 to around 180 000 by 1995. In response to the severe decline of the apprenticeship system and the skills shortages that beset the UK economy in the 1990s, the modern apprenticeship system was introduced in 1995. Modern apprenticeships are standards-based and, like traineeships in Australia, have introduced structured training into industry sectors that have not in the past supported traditional apprenticeships. Modern apprenticeships are regulated through the National Traineeship scheme and have to support a minimum number of off-the-job training hours per week. Government funding for training is provided by the Department for Education and Employment (DfEE) which is delivered through the network of training and enterprise councils (TECs), a role being taken over by the new learning and skill councils in 2001.

In September 1997, the government introduced the National Traineeship scheme. National Traineeships are available to school leavers aged 16 to 25 years. National Traineeships provide trainees with a broad range of work-based skills such as communication, problem-solving, working with numbers and information technology. Following the completion of the national traineeship, candidates can continue working, enter full-time or part-time education or take up a modern apprenticeship.

In February 2000, the Secretary of State for Education and Employment announced measures to reform work-based training. These included changing modern apprenticeships and national traineeships to advanced modern apprenticeships and foundation modern apprenticeships respectively. It is anticipated that a new framework incorporating advanced and foundation modern apprenticeships will be available by March 2001.

Table 7 shows the number of people in advanced modern apprenticeship and foundation modern apprenticeship training since 1996.

Table 7: Number of Apprentices In-training in the United Kingdom, 1996–2000

Year	Advanced modern apprenticeships	Foundation modern apprenticeships
Period ending		–
March 1996	27 800	–
March 1997	81 900	–
March 1998	118 800	900
March 1999	135 700	31 700
March 2000	139 400	78 000

Source: DfEE (2000)

The UK government expects that the number of modern apprentices will continue to grow over the coming years. Early in 1999, the government announced extra funding for modern apprenticeships. This funding was used to create another 10 000 placements in the financial year 1999–2000. Since the introduction of modern apprenticeships in 1995, the government has injected in excess of £3 billion into this scheme.

The modern apprenticeship system has been successful in the United Kingdom because the system has been expanded to include wider occupational and industry sectors than previously. An indication is given in table 8 of how successful this expansion has been, with non-traditional occupations such as business administration, retailing and hospitality now featuring in the top five modern apprenticeship occupational categories.

Table 8: Modern apprenticeships in the United Kingdom with highest number of enrolments, 1999

Modern apprenticeship framework	Number of commencements	Proportion of all modern apprentices (%)
Business administration	35 250	14.2
Engineering manufacturing	26 890	10.8
Retailing	24 530	9.9
Motor industry	18 500	7.5
Hospitality	18 370	7.4
Construction	17 630	7.1
Hairdressing	16 290	6.6
Health and social care	13 980	5.6
Electrical installation engineering	10 260	4.1
Early years care and education	8 230	3.3

Source: CEDEFOP (2000a)

4.2 Apprenticeships in the United States of America

The United States of America has traditionally supported only a very limited apprenticeship program. The American colonies instituted an apprenticeship system based on the British model in the sixteenth century, but the nature of the American industrial revolution in the mid-nineteenth century led to the development of an industrial system based on large-scale factories employing predominantly unskilled labour. The craft tradition that underpinned the development of European systems of apprenticeship was thus lacking in the USA and apprenticeship was restricted to a few trades.

In the United States of America, the federal government and the state governments are responsible for managing the national apprenticeship system as prescribed by the *National Apprenticeship Act* of 1937 (Fitzgerald act). The Bureau of Apprenticeship and Training and the state apprenticeship agencies are responsible for registering apprenticeship programs that meet federal and state standards.

Registered apprenticeship training programs operate with the financial support of private employers and labour/management sponsors. The employers or labour/management sponsors providing registered apprenticeship programs are responsible for all the training costs and the wages paid to their apprentices. The duration of registered apprenticeship programs varies from one to six years, thus employers or labour/management sponsors can pay each apprentice an 'industry scholarship' worth between $40 000 to $150 000 for the total duration of the apprenticeship training.

By contrast with European countries where apprenticeships are viewed as a mechanism for providing vocational training for young people, registered apprenticeship training in the United States of America aims to provide employed adults with opportunities to upgrade their skills or for retraining (Wonacott 1992).

During the financial year 1999 there were over 431 797 persons receiving registered apprenticeship training in 36 903 programs in the USA. The total number of apprentices in 1999 accounted for only 0.2% of the working population. Of the total number of apprentices in 1999, 31 208 (7%) were women. Two-thirds of apprentices in the USA work in the construction and manufacturing trades. However, apprentices also work in diverse fields such as 'electronics', 'service industry', 'public administration' and 'medical and health care' (see US Department of Labour 2000; Central Intelligence Agency 1999a).

4.3 Germany's 'dual system' of apprenticeship

Germany has the most extensive and most studied apprenticeship system in the world. Based on a strong tradition of craft training dating back to the Middle

Ages, the modern German 'dual system' is a product of the post-war reconstruction which established the consensual German industrial relations system based on works councils and the employer-financed apprenticeship system. The term 'dual system' refers to the fact that training in the German system is based on both practical training received in the workplace and theoretical education delivered through the vocational training schools. In general, apprenticeships last for approximately three years and are based on three to four days per week in company training and one to two days per week schooling through the vocational training schools.

The system is financed principally by employers, which is a significant variation from the Australian and other European models which rely heavily on government funding of off-the-job training as well as on wage subsidies. The operation of the vocational training schools are regulated by the German state governments (Länder) with substantial involvement of employers through the very active system of chambers of commerce. The German system also covers a much wider range of occupations and industries than do traditional apprenticeships in the English-speaking world. The distribution of apprenticeships by training areas for 1998 is shown in table 9.

Craft occupations, the traditional preserve of the apprenticeship system in the UK and Australia, account for 37% of apprenticeships in Germany. The trade and industry category includes banking, insurance and transport. Thus, the apprenticeship system covers most occupations in the economy.

Table 9: Proportion of apprentices in Germany by training areas, 1998

Training areas	Proportion of apprentices (%)
Trade and industry	47.0
Crafts	37.7
Agriculture	2.4
Public service	2.9
Professionals	9.1
Other including domestic science & maritime shipping	0.9
Total	**100.0**

Source: CEDEFOP (2000b)

The dual system provides education and training for all young people who do not go to university. It is therefore, a large system with over 1.5 million trainees or 3% of the working-age population. The numbers of commencements, in training and completions in the German apprenticeship system since 1980 are shown in table 10.

Table 10: Number of apprenticeship commencements, in training and completions in Germany, 1980–98

Year	No. of new contracts ('000)	No. undergoing apprentice training ('000)	Completions ('000)
1980	671	1715	568
1985	709	1832	633
1990	538	1477	532
1995	578	1580	503
1996	579	1590	488
1997	587	1622	482
1998	612	1657	na

Source: CEDEFOP (2000b)

The German system is viewed primarily as a system of training rather than a system of employment. This is another characteristic that distinguishes it from apprenticeship in the English-speaking world. The wages of apprentices reflect this emphasis on training, with German apprentices typically paid wages that are far lower than adult rates and apprentice rates in Australia or the UK.

Difficulties have been experienced in extending the dual system across the whole of Germany in recent years. Since re-unification, the demand for places in the system has outstripped supply. Few employers in the former East German Länder have the ability to provide training places and so youth unemployment remains high in these areas. Moreover, the federal and consensual nature of the system means that changes to curriculum and the introduction of new occupations to the dual system have to be negotiated at many levels, involving governments, employers and unions as the key social partners. Creating greater flexibility in the system is imperative for the dual system's future development.

4.4 The Austrian dual system

Austria operates a dual system of apprenticeship very similar to the German system. The Austrian dual system is based on enterprises and part-time vocational schools working together to provide training for apprentices. Enterprises are responsible for providing the 'in-company training' or on-the-job training for apprentices while part-time vocational schools provide off-the-job training. In-company training provides apprentices with the specific knowledge and skills about their chosen occupations while training at a part-time vocational school broadens apprentices' general knowledge and builds on the training they have received at the workplace.

Attendance at the part-time vocational school is compulsory. Apprentices are expected to attend the part-time vocational school either once a week for up to nine hours on one day, or twice a week for up to twelve hours. Apprentices may also attend part-time vocational school for one-week block sessions for up to eight to twelve weeks.

Training at a part-time vocational school is financed through federal and state government resources. The costs involved in purchasing equipment for the part-time vocational school are the responsibility of the state government while the costs of teaching salaries are shared equally by both federal and state governments.

In-company training is usually financed by the company. However, in the last few years there has been a sharp decline in the number of training places for apprentices. To address this decline, financial incentives from public funds are being offered to companies to induce them to supply more training places for apprentices.

Under the *Vocational Training Act*, apprentices receive a training wage appropriate for the specific occupational area. This wage increases each year, with the amount paid to apprentices in their last year of training averaging 80% of a corresponding skilled worker's wage.

About 40% of Austrian students who complete compulsory schooling start an apprenticeship, and although there was a decline in the total number of apprentices and commencing apprentices from 1981 to 1996, there was a 1.4% rise in the total number of apprentices in 1997 (refer to table 11).

Table 11: Trends in the total apprenticeships and in each year of apprenticeship in Austria, 1980–97

Year of apprenticeship	Year						
	1980	1985	1990	1994	1995	1996	1997
First year	61 800	52 780	44 850	39 700	37 340	37 080	40 180
Second year	59 560	52 860	44 530	38 610	38 200	36 080	36 530
Third year	57 980	51 530	43 700	37 440	36 660	36 160	34 340
Fourth year	14 760	12 750	12 440	12 000	11 180	10 610	10 580
Total	**194 100**	**169 920**	**145 520**	**127 750**	**123 380**	**119 930**	**121 630**

Source: CEDEFOP (2000c)

Apprenticeship training can only be given for a skilled occupation which is legally recognised in Austria by the Federal Ministry of Economic Affairs in collaboration with the Federal Ministry of Labour, Health and Social Affairs. There are 240 legally recognised occupations in Austria. During 1997, apprentices were predominantly employed in occupations in small industry and crafts, commerce and tourism and recreation sectors. The distribution of apprenticeships by employment sector during 1997 is shown in table 12.

Table 12: Apprentices in Austria by sector of employment, 1997

Sector	Number of apprentices	Proportion of apprentices (%)
Small industry and crafts	69 310	57.0
Industry	13 970	11.5
Commerce	18 680	15.4
Money – credit – insurance	680	0.6
Transport	1 830	1.5
Tourism and recreation	12 150	10.0
Non-chamber	5 000	4.1
Total	**121 620**	**100.0**

Source: CEDEFOP (2000c)

Over the years, there has been a number of amendments to the *School Act* to improve the Austrian vocational training system. For instance, in the academic year 1990–91, a subject, 'occupation-related foreign language' (English), was made compulsory for all apprentices attending part-time vocational school. Two years later, with the aim to make apprentices more articulate, a compulsory subject, 'German and communication', was also introduced.

The Austrian dual system of vocational training is being integrated in the overall education system. In 1997, a 'lateral access matriculation qualification' was introduced for persons who had passed their final apprenticeship exam. This allows apprentices to access studies at universities or higher technical colleges upon the completion of apprenticeship training.

4.5 The Swiss dual system

The modern Swiss dual system is the result of changes made in the traditional apprenticeship system during the Industrial Revolution of the nineteenth century which saw the implementation of government subsidies for vocational training.

In 1930, the federal law on vocational training stipulated that on-the-job training was to be supplemented by compulsory school attendance leading to the establishment of the dual system. Although there have been revisions to this law, the concept of apprenticeship training involving compulsory school attendance and on-the-job training is a strong feature of the Swiss apprenticeship system today.

As part of the dual system, apprentices are expected to attend theoretical training in a vocational school for one or two days per week and to receive practical training from a private or public enterprise for the remaining three or four days. In some instances, larger enterprises may have their own training premises, and in these cases apprentices are not required to attend vocational school for theoretical training. The duration of apprenticeships can be two, three or four years depending on the chosen occupation.

During their time in the workplace, apprentices are considered to be enterprise employees and are entitled to a wage. The wages given to apprentices vary according to the type of apprenticeship, the enterprise and the stage of training. A majority of young people in the 15 to 19-age group prefer to take up vocational training upon completion of compulsory schooling. In general about two-thirds of young Swiss enter initial vocational training upon completion of compulsory schooling each year (OECD 1996, p.169).

In Switzerland, there are over 300 occupations open to apprentices. During 1995–96, there were 164 500 people involved in apprenticeship programs. Of this number, 66.8% were men.

A federal survey of training and the enterprise conducted in 1995 showed that of the some 141 860 jobs held by apprentices, more than half the total number of apprentices were in the construction, retail trade, services to enterprises, health, social activities and sale, repairs of motor vehicles sectors (see table 13).

Table 13: Number of apprenticeships in Switzerland by sector of employment, 1995

	Number of apprentices	Proportion of apprentices (%)
Construction	21 550	15.2
Retail trade	19 790	14.0
Services to enterprises	11 990	8.5
Health, social activities	11 400	8.0
Sale, repairs of motor vehicles	9 990	7.0
Other sectors	67 140	47.3
Total	**141 860**	**100.0**

Source: Hanhart & Bossio (1998)

In Switzerland, 99% of people are employed by small or medium-sized enterprises. Nevertheless, apprentices were evenly distributed amongst small (31%), medium (33%) and large (36%) enterprises.

Although the dual system offers numerous advantages for enterprises, the public authorities and the apprentices themselves, there has been a steady decline in the number of apprentice training places since 1985. Over the ten years from 1985 to 1995, there was a 30% decrease in the number of apprentices in enterprises. This downward trend has been attributed to young people's deteriorating perception of vocational training. Young people are increasingly inclined to consider university education as a better option because it offers a wider range of career choice.

The Swiss authorities are concerned about the fall in the number of apprentices and they are seeking ways to encourage enterprises to become more involved in offering apprenticeship training to young people. In addition, the federal and cantonal authorities responsible for vocational training are improving the profile of vocational training by restructuring the advanced vocational training program. Consequently, specialised higher education institutions are being established to enable apprentices to continue into further education upon completion of their apprenticeship training.[10]

4.6 Apprenticeship in France

As in most European systems, apprenticeship in France has its historical roots in the medieval guilds, with the hierarchical structure of master craftsman, journeymen and apprentices. The first direct intervention by the French government in matters associated with the apprenticeship system was the *Astier Act 1919*. The *Astier Act* allowed local authorities the responsibility for organising young people in the 14 to 17-age group to be employed in an industrial enterprise. Over the years, legislation has been passed to improve the recognition of apprenticeships. More specifically, legislation has attempted to ensure that apprenticeships are attractive to young people and flexible for employers/enterprises.

In France, an apprentice acquires practical skills from the employer and theoretical training at an apprentice training centre (CFA). The employer is obliged to enrol their apprentices in a CFA. The CFAs are establishments set up by agreement between either the state (for the national recruitment centres) or a regional council and the CFA managing body. The CFA managing body may be a local authority, a trade association, a chamber of commerce, crafts or agriculture, an enterprise or a public or private teaching establishment. There are 12 national CFAs that manage 70 different teaching sites and are run directly by the Ministry of Education or the Ministry of Agriculture. They are subject to state teaching controls (Ministry of National Education) and to technical and financial controls exercised by the state or the region which has signed the agreement. In France, public and private schools as well as training centres or research centres can also offer apprenticeship training.

Apprenticeship programs vary between one and three years in length depending on the type of occupation and the level of qualification to be obtained. However, the duration of training must not exceed 400 hours each year.

Enterprises taking on apprentices in France receive cost exemptions. Since 1996, a global compensatory bonus subsidises employers on the signing of the training contract.

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[10] For more information about the Swiss system see Gonon (1999).

The number of apprentices in France has been increasing since the 1980s as shown in table 14. The total number does not include apprentices in the agriculture sector. These apprenticeships are the responsibility of the Ministry of Agriculture. The number of apprentices in the agriculture sector has also been increasing steadily. In 1995–96, the estimated number of apprentices in this sector was 20 000. This number is more than double that of ten years ago. In 1996 the total number of apprentices in France comprised approximately 0.8% of the total working population in the 15 to 64-age group.

Table 14: Number of apprentices in France, 1985–99

Year	Number of apprentices
1985–86	226 800
1990–91	220 320
1995–96	276 000
1996–97	290 000
1997–98	312 830
1998–99	323 380

Source: CEDEFOP (2000d)

Apprenticeships in France cover a wide variety of occupational and industrial sectors with most apprentices employed in the tertiary sector of commerce and personal services as shown in table 15. Some 20% are employed in the construction sector.

Table 15: The share of apprenticeships by economic sector in France, 1997

Economic sector	Proportion of apprentices (1997)
Agriculture, forest, fisheries	2.1
Industry	23.6
Non-industrial food	10.9
Consumer goods	2.5
Capital goods	3.9
Intermediate goods	4.1
Construction	20.0
Services	54.3
Commerce, automobile repair	9.7
Pharmacies	3.9
Other commercial fields	14.0
Services for enterprises	3.7
Hotel/catering	13.9
Hairdressing	5.4

Source: CEDEFOP (2000d)

It is expected that the number of apprentices will increase in the coming years, especially in information technology. The French government has attempted to extend the apprenticeship system to new occupational areas by signing agreements with employer groups such as the Permanent Assembly of Crafts Chambers, the French Assembly of Chambers of Commerce and Industry and the Central Committee for the Co-ordination of Apprenticeship in the Building and Public Works Sector (CCCA). In addition, agreements have been signed in the mining and metallurgy, sale and repair of cars, transport, paper, printing and plastics sectors. Other large enterprises in the cosmetics, banking and hotel sectors have also been encouraged to take on increased numbers of apprentices. The government has also opened up the possibility of apprenticeships being linked to higher education courses.

4.7 Apprenticeship in the Netherlands

The Dutch apprenticeship system has recently been the subject of significant change as part of the recent reforms to the vocational education and training system. The *Education and Vocational Training Act 1997* established two alternative pathways for vocational education and training—the vocational training pathway linked closely to senior secondary VET and the apprentice training pathway which is essentially the traditional apprenticeship route. These two approaches to VET have been combined in a four-level vocational qualifications structure covering basic assistant training to middle management.

Apprenticeship training is organised through a network of regional training centres that help to co-ordinate the delivery of both theoretical and practical training. The Dutch government subsidises employers to take on unemployed people as apprentices.

The number of apprentices in the Netherlands increased from around 100 000 in 1985 to 136 000 in 1990. Since that time numbers have declined and in 1997 stood at 115 000 or 1.1% of the working-age population.

Women comprise approximately a quarter of all apprentices in the Netherlands. Although the number of apprentices in the Netherlands varied slightly over the last 15 years, there was no one period when the country experienced a significant gain or loss of apprentices. This information is shown in table 16.

In 2000, the total number of apprentices in the Netherlands comprised approximately 1.1% of the working-age population.

Table 16: Number of apprentices by gender in the Netherlands, 1985–97

Year	Males	Females	Total
1985	71 800	24 250	96 050
1986	82 300	28 260	110 570
1987	88 360	31 850	120 220
1988	92 050	34 090	126 140
1989	96 020	35 430	131 450
1990	99 210	37 100	136 310
1991	98 490	37 280	135 770
1992	97 460	35 920	133 380
1993	96 980	34 730	131 710
1994	96 700	32 760	129 450
1995	96 360	31 200	127 560
1996	84 400	26 060	110 460
1997	86 110	28 890	115 000

Source: CEDEFOP (2000e)

The number of apprenticeship contracts in the Netherlands in each sector during 1995–96 is shown in table 17. The largest proportion of apprentices was in the 'automobiles, vehicles building and car repair' sector, followed by the 'trade' and the 'electro technical' sectors.

4.8 Apprenticeship in Finland

In Finland, apprenticeship training is open to anyone who, at the time of signing the contract, is 15 years of age. Although there are some apprenticeship contracts made available through employment offices, the majority of apprenticeship contracts are initiated by students contacting employers directly. The final decision on whether or not the student is accepted for an apprenticeship rests with the employer. Apprenticeship training lasts from one to three years depending on the apprentice's prior educational qualifications and work experience. If necessary however, their training may exceed three years.

During the 1970s and 1980s, the number of people involved in apprenticeship training was low. At this time, the average number of apprentices was between 3000 and 8000 per year. However, in recent years, there has been a sharp increase in the number of apprentices. In 1995 there were 17 000 apprentices, increasing to just over 36 000 in 1997.

In 1997, the highest number of apprenticeships was in the technology and transport, administration and commerce and social and health care sectors (as shown in table 18 on page 48).

Table 17: Number and percentage of apprenticeship contracts in the Netherlands, 1995–96

Sector	Number of apprenticeship contracts	Proportion of apprenticeship contracts
Administrative commerce, administrative automatisation, logistics, social law and security	7 960	6.8
Graphic and communication industries	1 160	1.0
Automobiles, vehicles building and car repair	10 730	9.2
Installation techniques	6 330	5.4
Cosmetic care	3 990	3.4
Hotel, catering and tourism	6 000	5.2
Trade	10 230	8.8
Health care, facility service, welfare and sport	6 980	6.0
Civil and maritime engineering	2 330	2.0
Woodworking and furniture	2 400	2.1
Bakery and confectionery	2 310	2.0
Metal industry	9 870	8.5
Construction industry	9 330	8.0
Health care technology	1 060	0.9
Meat sector	1 790	1.5
Painters and plasterers and design and representation techniques	3 770	3.2
Transport and logistics	3 950	3.4
Processing industry and laboratories	5 200	4.5
Electro technical	10 220	8.8
Body works	2 080	1.8
Textile and clothing industry	440	0.4
Agriculture	8 310	7.1
Total	**116 440**	**100.0**

Source: CEDEFOP (2000e)

Table 18: Number of apprenticeships in Finland by occupational fields, 1997

Sectors	Number of apprentices	Proportion of apprentices (%)
Renewable natural resources	1 370	3.8
Technology and traffic	13 380	36.9
Administration and commerce	9 090	25.1
Hotel, catering and home economics	4 110	11.3
Social and health care	6 810	18.8
Culture	850	2.3
Humanities and teaching	660	1.8
Other/unknown	20	0.0
Total	**36 290**	**100.0**

Source: CEDEFOP (2000f)

Financing for apprenticeship training is calculated annually. Each year, the Ministry of Education defines a unit price for initial vocational training and a unit price for additional vocational training, both of which are used as a basis for granting state subsidies. These funds are subsequently used by the education provider to cover the salaries of administrative and supervisory staff, the training compensation paid to the employer, the costs of theoretical instruction and competence-based examinations, and the living allowance paid to the students during training.

Although the amount of training compensation paid to employers depends on the field of study and on the apprentices' work experience and prior educational qualification, the size of the payment made to the employer is agreed upon separately for each apprenticeship contract before the contract is approved. As a result, the amount paid to employers for training compensation varies from region to region despite the field of study undertaken by apprentices.

Employers are responsible for paying the wages of apprentices. Although the level of wages varies according to the field of study undertaken, apprentices are generally paid 80% of the wages of a skilled worker in that particular field. However, employers are not obliged to pay their apprentices wages when the apprentices are undergoing their theoretical training. During theoretical training (which is free of charge to apprentices), apprentices are entitled to a per diem allowance to compensate for their loss of income on that day.

In the near future, the use of apprenticeship training is likely to be more concentrated in small and medium-sized business as the majority of enterprises in Finland are either classified as small or medium-sized. For instance, in 1996, a total of 203 000 (94%) enterprises in Finland had less than ten employees, yet the number of apprentices employed by these enterprises accounted for less than 20% of the total.

Most importantly however, there is a perceived need to improve the quality of apprenticeship training in the near future. Although Finland already has a system of competency-based qualifications which serves the purpose of quality assurance in apprenticeship training, there have been suggestions that this is not sufficient. Feedback on the quality of apprenticeship training is needed from participants at workplaces such as that from employers and apprentices.

4.9 Apprenticeship in Norway

With a view to achieving a more uniform education system and better co-ordination between education in school and training at work, all levels of the Norwegian education and training system underwent major reform during the 1990s. In particular, the act concerning upper secondary education, which regulates education in schools and the act concerning vocational training, which regulates apprenticeship training, experienced major reforms known as Reform 94.

The aim of Reform 94 was to devise new curricula for all subjects/trades as well as new competence levels for vocational training, and to make training in IT compulsory for all areas. In addition Reform 94 aimed to provide more flexible training for all students and to ensure that the subjects and the time allocated to the common general subjects were the same for all vocational areas of study.

Since 1996, the organisation of recognised trades has also been restructured. The 234 trades which existed prior to the reform were reduced to 182 recognised trades. In addition, 40 new trades were introduced. These new trades included occupations in the health and social studies, service, business, transportation and the primary industries sectors. These trades also comprised industry sectors with a predominance of women.

Apprenticeship training in Norway is an integral part of upper secondary education. All participants enrolled in vocational education and training are on apprenticeship programs. The apprenticeship program follows the '2+2 model', under which apprentices spend their first two years at upper secondary school and the second two years as an apprentice in a private enterprise or public institution.

Table 19 shows the progression of students following the completion of upper secondary schooling. Following the completion of their upper secondary schooling in spring 1998, only a small proportion of students entered apprentice type training immediately. Students who progressed to apprenticeship training were predominantly involved in electrical trades, engineering and mechanical trades and general and business studies.

Norwegian apprentices are considered to be employees of an enterprise and, thus, receive a salary. The salary usually corresponds to the productive work conducted and it increases annually. In general, apprentices are expected to

Table 19: Progression of upper secondary school[a] students in Norwa

Area of study spring 1998	In education 1 October 19			
	Apprenticeship	Folk high schools	Other secondary education[c]	Co
General and business studies	0.4	8.5	10.5	1
Music, dance and drama	-	25.0	8.3	
Sports and physical education	-	7.1	13.4	
Health and social studies	-	1.2	26.8	
Agriculture, fishing and forestry	0.3	3.1	21.1	
Arts, craft and design	0.3	11.2	21.0	
Hotel and food processing trades	4.2	-	-	
Technical building	0.5	1.9	23.9	
Electrical trades	33.2	1.3	18.1	
Engineering and mechanical trades	41.0	0.2	4.0	
Woodworking trades	-	-	33.3	
Other[d]	1.1	0.1	51.7	1
Total	**1.8**	**7.8**	**13.2**	**1**

Notes: (a) Comprising pupils who completed an advanced course II.
(b) Not including pupils in basic courses.
(c) Not including pupils in folk high schools.
(d) Includes pupils in area of studies before Reform 94.

Sources: Ministry of Education, Research and Church Affairs (2001); CEDEFOP (2000g) y by area of study, 1998 (%)

98(b)		Not in education 1 October	Total	Total number of pupils
lleges	Universities			
6.7	12.5	51.4	100.0	1 202
9.8	16.5	40.5	100.0	1 075
9.6	6.1	63.8	100.0	1 674
0.5	0.1	71.3	100.0	2 618
5.8	1.7	68.1	100.0	1 272
6.3	4.0	57.3	100.0	1 363
8.3	-	87.5	100.0	24
0.5	-	73.2	100.0	209
1.1	-	46.3	100.0	1 233
0.4	-	54.5	100.0	481
-	-	66.7	100.0	3
3.2	1.2	32.8	100.0	842
3.8	**10.2**	**53.2**	**100.0**	**42 896**

receive 30% of the salary of a skilled worker in the first month of training, rising to 80% of the salary of a skilled worked in the last six months of training.

Autumn 1996 saw the first intake of post-Reform 94 apprentices. Both the authorities and social partners made an effort to recruit 16 500 apprentices. Although this figure represented a 50% increase in the number of apprentices since 1995, 45% of applicants were not offered apprenticeships during 1996. As a result, a new funding system with higher subsidies for enterprises taking on apprentices affected by Reform 94 was introduced.

Consequently, almost 16 000 new apprenticeship contracts were signed in 1998 and the number of apprenticeship contracts in force during that year was 31 800.

4.10 Apprenticeship in Denmark

Like many Scandinavian apprenticeship systems, the Danish system has evolved from vocational schools established in the nineteenth century to provide general education for apprentices. During the 1960s, the numbers of young people moving into apprenticeships declined as parents and students opted for the gymnasium schools designed to prepare students for entry to university. The Danish government responded to the declining numbers of apprentices by instituting a new vocational training system, the EFG (the initial vocational education and training system), based on a general first year of education at a vocational school whereby students undertook the basic content of all the major trade areas before choosing a specialist trade to enter. The EFG was merged with the traditional apprenticeship system in 1991.

Technical vocational education and training programs have recently been simplified to be more flexible. As from 2001, the programs consist of a basic course and a main course. The basic courses are school-based courses which form the introductory part of the technical vocational education and training program. Upon the completion of the basic course, students are issued with a certificate that lists the subjects and levels completed by the student. This certificate constitutes the basis for admission to the main course. The main course consists of both theoretical education at school and practical training at a business enterprise.

The basic course normally consists of 20 weeks of teaching. Of this, five weeks are devoted to compulsory basic subjects, and another five weeks are devoted to training-specific area subjects, which are directed at a given main course (specialisation). The remaining ten weeks consist of common area subjects. The total duration for a main course will normally not exceed three-and-a-half years. The duration of compulsory school education in the main course can normally not exceed 60 weeks.

The vocational colleges receive grants from the state according to the number of students enrolled. Students undertaking vocational education and training do not have to pay a fee. They are however, able to receive a salary during the entire contract period—both during the practical training and when they are at school.

The employer pays a salary to the student during practical and theoretical training. The employer receives reimbursement from the employers' reimbursement scheme for the salary paid to the student during the school periods.

Approximately a third of all companies in Denmark employ apprentices. These companies need to be able to provide appropriate training approved by the Trade Committee. Technical schools and commercial schools are also eligible to participate in the delivery of training for apprentices. Since 1992, adults have been allowed to enter an apprenticeship program in Denmark. These programs are identical to those undertaken by younger people. However, since most adults have been employed previously, many of them are exempted from certain parts of the training.

The total number of apprentices in training in 1997 was 31 500 or 0.9% of the working-age population. As in most continental European apprenticeship systems, apprenticeships cover a wide variety of occupational and industrial sectors with commerce, construction, metals and food the principal trades (table 20).

In 1997 the total number of apprentices in Denmark comprised approximately 0.9% of the working population in the 15 to 64-age group.

Table 20: Distribution of apprenticeship contracts on main trades in Denmark, 1998

Main trades	% of contracts
Construction	19.5
Graphic subjects	1.6
Metal	17.2
Agriculture	3.1
Transport	2.4
Food industries & trades	12.3
Service trades	5.4
Commerce & office	37.6
Technical assistant	0.9
Total	**100.0**

Source: CEDEFOP (2000b)

4.11 The relative coverage of apprenticeship systems in different countries

From its roots in the British system of apprenticeships, the Australian apprenticeship and traineeship system has evolved into a well-established institution that, by world standards, has proved to be highly adaptable to rapidly changing economic and social conditions and displaying remarkably high levels of growth in recent years.

Historically, the Germanic dual systems have been the world's biggest in terms of both the absolute numbers of apprentices and the coverage of occupations in the workforce, particularly in terms of the coverage of the apprenticeship system for young people entering the workforce. By 1998, that coverage had reached around 3% of the total workforces of the dual system countries of Germany and Switzerland and over 2% in Austria.

Although apprenticeship training is an important form of training in many countries with highly developed systems of technical and vocational education and training, the Australian system has grown so rapidly in recent years that it is now only outranked by the dual system countries in terms of the comprehensiveness and extent of its coverage of the workforce.

As shown in table 21, in terms of proportional coverage of the workforce, Australia's new apprenticeship system is now fourth only to Switzerland, Germany and Austria. The very rapid growth in new apprenticeship numbers in Australia in recent years has seen the proportion of the working-age population who are in new apprenticeships increase very rapidly from just 1.5% in 1998 to some 2.1% in 2000.

Table 21: An international comparison of total apprenticeship numbers

Country	Year	Numbers of apprentices in training	Population in the 15–64 age-group	% of working-age population (15–64 yrs)
Switzerland	1995–96	164 500	4 824 000	3.4
Germany	1998	1 657 000	56 220 150	3.0
Austria	1997	121 629	5 480 820	2.2
Australia	2000	275 600	12 875 540	2.1
Finland	1997	36 289	3 424 100	1.1
Norway	1998	31 800	2 862 130	1.1
Netherlands	1997	115 000	10 681 340	1.1
Denmark	1997	31 494	3 556 340	0.9
France[(a)]	1998–99	323 380	38 537 360	0.8
United Kingdom[(b)]	2000	217 400	38 851 090	0.6
United States of America	1999	431 797	179 403 380	0.2

Notes: (a) Excluding agriculture apprentices.
(b) Advanced modern apprentices and foundation modern apprentices.
Sources: Central Intelligence Agency (1997, 1998a, 1998b, 1999a, 1999b, 1999c), CEDEFOP (2000a, 2000b, 2000c, 2000d, 2000e, 2000f, 2000g, 2000h, 2001), US Department of Labor (2000)

Australia now has a world-leading apprenticeship system in terms of proportional coverage of the workforce.

Countries like Finland, Norway, Netherlands and Denmark follow with only around 1% of their workforce in apprenticeships. France has around 0.8% in apprenticeships, followed by the United Kingdom (0.6%) and the United States (only 0.2%).

5 Recent changes in the structure of the apprenticeship, traineeship and new apprenticeship system in Australia

THE PAST DECADE has seen the most significant changes ever experienced in the development of the apprenticeship and traineeship system in Australia.

As noted in chapter 3, the past decade saw the abolition of age restrictions for entry to apprenticeships and traineeships (the impact of which is examined in chapter 6) and the belated roll-out of traineeships since the early-to-mid-1990s.

Even more profound changes have occurred in the past three years with the integration of apprenticeships and traineeships into the single 'new apprenticeships' system, which commenced on 1 January 1998.

In this chapter, the impact of these changes on the nature and structure of the apprenticeship and traineeship system in Australia is examined.

5.1 The features of traditional apprenticeships and traineeships and new apprenticeships

By way of a backdrop to considering the impact of recent developments in Australia's apprenticeship and traineeship system, it is useful first to consider the fundamental features of apprenticeships and traineeships.

The fundamental characteristic of the apprenticeship system in Australia has been that it offers both training and employment, in the context of entry to a particular trade or skilled job.

As Ray (2001) argued:

> *A fundamental feature of the apprenticeship system of employment and training is that it is designed to directly benefit both the industrial parties—apprentices and employers.*
>
> - *Apprentices benefit from having guaranteed employment for some years (normally four years for trade apprenticeships in Australia) and an opportunity to learn skills from qualified tradespersons.*
> - *Employers benefit from having an employee who becomes more and more productive as time passes. The relatively high costs of employing first year*

> *apprentices can be acceptable to employers on the basis that, by the third and fourth years, apprentices attain a work value about the same as a tradesperson, but receive apprentice wages that are less than the qualified rate.* (Ray 2001, p.1)

This discussion gets to the heart of the nature of an apprenticeship—it is both an employment and training system for people who are entering a skilled occupation.

Traditional apprenticeships in Australia display the following features:

- a contract of employment and training typically of four years' duration
- a structured training program typically involving four days per week in on-the-job instruction and employment, one day per week (or equivalent in longer blocks) off the job in TAFE or with other registered training provider typically for the first three years of the apprenticeship
- a training program leading to a trade certificate or equivalent, at certificate III level under the new Australian Qualifications Framework (AQF)

Apprenticeships in Australia traditionally have been focussed on training for a relatively limited set of trades and related occupations such as:

- carpenters, plumbers and other building trades
- metal trades, vehicle production and other industrial trades
- vehicle mechanics
- electrician and other electrical trades
- chefs, cooks and other food industry trades
- hairdressing

Essentially, apprenticeships in Australia have been designed to provide high-quality training in the context of the workplace to a relatively limited number of skilled trades and related occupations.

Apprenticeships have also been a significant pathway for young people (young males in particular) entering the labour market through entry-level employment in these trades. Hence apprenticeships have traditionally served the dual purpose of providing both training and initial employment, particularly in the skilled trades occupations of the Australian labour market.

As discussed in chapter 3, these occupations have traditionally dominated apprenticeship training in Australia.

The establishment of traineeships in 1985 had a number of purposes including:

- the provision of a greatly expanded range of structured entry-level training opportunities to young Australians entering the labour market for the first time

- the extension of the benefits of apprenticeship-style training beyond the traditional trades to a much wider range of occupations in the labour market to improve the quality of training (particularly entry-level training) across the whole Australian labour market

Traineeships were also designed to provide a more flexible and diverse set of training arrangements specifically to meet the particular training requirements of different occupations. Thus, flexible durations of the training contract were permitted (rather than the standard four years for an apprenticeship). Moreover, a variety of training programs has been possible under traineeships, ranging from very short certificate I programs to high-level technical traineeships at certificate IV or diploma level.

Typically, however, most traineeships have been at the AQF certificate II level and have involved contracts of training of one year's duration. Take-up of traineeships has been greatest in the retail sales and clerical areas of the labour market.

With the integration of both systems into the single new apprenticeships system, much greater flexibility is now possible. The key features of the new apprenticeships system are:

- contracts of training across all areas of the labour market, except in those occupations requiring professional or higher education qualifications at university level
- training leading to the full range of AQF qualifications from certificate I to diploma/advanced diploma level
- flexible durations of the training contract depending on training requirements of the particular occupation and any relevant previous skills/qualifications of the new apprentice and the development of new part-time options
- a choice of training provider including the option to provide all training on the job
- the development of new options for school-based apprenticeships

Effectively, the new apprenticeships system means that options other than the standard four-year apprenticeship and one-year traineeship are now available.

The new apprenticeships system now covers hundreds of occupations. A complete listing of all new apprenticeships that had more than 50 new apprentices in training in 1999 is given in box 5 in order to illustrate the range and diversity of the occupations now covered by the new system.

Box 5: New apprenticeships in specific occupations (4-digit ASCO[a]) that have more than 50 new apprentices in training, 1999

Managerial & administrative occupations (1.0% of new apprenticeships)

1299 Other specialist managers (870), 1312 Livestock farmers (560), 1311 Mixed crop & livestock farmers (380), 1310 Other farmers and farm managers[b] (340), 1313 Crop farmers (200), 1112 General managers (80)

(New apprenticeships in these 6 occupations make up around 97% of all managerial and administrative new apprenticeships.)

Professional occupations (0.6% of new apprenticeships)

2323 Registered nurses (580), 2114 Environmental & agricultural service professionals (270), 2493 Education officers (250), 2399 Other health professionals (220), 2512 Welfare & community workers (180), 2382 Pharmacists (70)

(New apprenticeships in these 6 occupations make up around 96% of all professional new apprenticeships.)

Associate professional occupations (2.7% of new apprenticeships)

3125 Mechanical engineering associate professional (1900), 3294 Computing support technicians (1860), 3293 Real estate associate professionals (1630), 3911 Police officers (350), 3993 Sportspersons, coaches & related support workers (350), 3492 Dental associate professionals (170), 3291 Sports & recreational managers (160), 3122 Civil engineering associate professionals (90), 3123 Electrical engineering associate professionals (90), 3111 Medical technical officers (80), 3129 Other building and engineering associate professionals (50)

(New apprenticeships in these 11 occupations make up around 98% of all associate professional new apprenticeships.)

Tradespersons & related occupations (51.2% of new apprenticeships)

Mechanical and fabrication engineering (15.4% of all trades new apprenticeships)

4110 General mechanical engineering tradespersons[b] (4910), 4120 Fabrication engineering tradespersons[b] (4780), 4112 Metal fitters & machinists (2380), 4121 General fabrication engineering tradespersons (2130), 4100 Mechanical and fabrication engineering tradespersons[c] (1970), 4111 General mechanical engineering tradespersons (1710), 4122 Structural steel & welding tradespersons (830), 4114 Aircraft maintenance engineers (630), 4115 Precision metal tradespersons (310), 4124 Sheetmetal tradespersons (210), 4123 Forging tradespersons (90), 4113 Toolmakers (80), 4125 Metal casting tradespersons (60)

(These 13 occupations make up almost 100% of all new apprenticeships in the mechanical and fabrication and engineering trades.)

Box 5: New apprenticeships in specific occupations (4-digit ASCO(a)) that have more than 50 new apprentices in training, 1999 (cont.)

Tradespersons & related occupations (cont.)

Automotive trades (17.6% of all trades new apprenticeships)

4211 Motor mechanics (14 110), 4215 Vehicle body makers (2920), 4213 Panel beaters (2570), 4214 Vehicle painters (2110), 4212 Automotive electricians (1010), 4216 Vehicle trimmers (210), 4200 Automotive tradespersons(c) (90)

(These 7 occupations make up 100% of all new apprenticeships in the automotive trades.)

Electrical & electronics trades (13.8% of all trades new apprenticeships)

4311 Electricians (11 740), 4310 Electrical and electronics tradepersons(d) (3040), 4312 Refrigeration & airconditioning mechanics (1790), 4315 Electronic & office equipment tradespersons (370), 4313 Electrical distribution tradespersons (370), 4316 Communications tradespersons (340), 4314 Electronic instrument tradespersons (340)

(These 7 occupations make up 100% of all new apprenticeships in the electrical & electronics trades.)

Construction trades (20.5% of all trades new apprenticeships)

4411 Carpentry & joinery tradespersons (12 810), 4431 Plumbers (6280), 4421 Painters & decorators (2200), 4414 Bricklayers (1580), 4416 Wall & floor tilers & stonemasons (990), 4412 Fibrous plasterers (940), 4413 Roof slaters & tilers (750), 4422 Signwriters (390), 4423 Floor finishers (380), 4415 Solid plasterers (330), 4400 Construction tradespersons(c) (100)

(These 11 occupations make up almost 100% of all new apprenticeships in the construction trades.)

Food trades (15.6% of all trades new apprenticeships)

4513 Cooks (11 600), 4511 Meat tradespersons (5340), 4512 Bakers & pastry cooks (3440)

(These 3 occupations make up almost 100% of all new apprenticeships in the food trades.)

Skilled agricultural & horticultural occupations (2.8% of all trades & related occupations new apprenticeships)

4623 Gardeners (1580), 4622 Greenkeepers (1140), 4621 Nursery persons (600), 4620 Horticultural tradespersons(b) (200), 4611 Farm overseers (90)

(These 5 occupations make up almost 100% of all new apprenticeships in skilled agricultural & horticultural occupations.)

Box 5: New apprenticeships in specific occupations (4-digit ASCO(a)) that have more than 50 new apprentices in training, 1999 (cont.)

Tradespersons & related occupations (cont.)

Other tradespersons & related workers (14.5% of all trades & related occupations new apprenticeships)

4931 Hairdressers (10 000), 4922 Cabinet makers (3390), 4912 Printing machinists & small offset printers (1050), 4929 Other wood tradespersons (790), 4921 Wood machinists & turners (520), 4982 Glass tradespersons (510), 4911 Graphic pre-press tradespersons (410), 4942 Upholsterers & bedding tradespersons (380), 4981 Marine construction tradespersons (360), 4941 Clothing tradespersons (310), 4983 Jewellers and related tradespersons (260), 4984 Florists (170), 4913 Binders & finishers (150), 4914 Screen printers (150), 4943 Footwear tradespersons (110), 4999 Other miscellaneous tradespersons & related workers (100), 4944 Leather goods, canvas goods & sailmakers (90), 4992 Performing arts support workers (80)

(These 18 occupations make up about 99% of all new apprenticeships in the other tradespersons and related occupations.)

The 64 occupations listed here for new apprenticeships in the trades and related occupations make up almost 100% of all trades new apprenticeships.

Advanced clerical & service occupations (less than 0.1% of new apprenticeships)

No occupations with more than 50 new apprenticeships.

Intermediate clerical, sales & service occupations (19.5% of new apprenticeships)

6111 General clerks (19 920), 6211 Sales representatives (8060), 6324 Hospitality trainees(a) (5360), 6314 Personal care & nursing assistants (3920), 6313 Special care workers (2350), 6323 Waiters (1910), 6312 Children's care workers (1750), 6199 Other intermediate clerical workers (1150), 6393 Prison officers (890), 6311 Education aides (850), 6212 Motor vehicle & related products salespersons (830), 6213 Retail & checkout supervisors (590), 6143 Bank workers (430), 6321 Hotel supervisors (410), 6395 Personal care consultants (370), 6391 Dental assistants (350), 6192 Library assistants (240), 6396 Fitness instructors & related workers (150), 6397 Travel & tourism agents (130), 6121 Keyboard operators (70)

(New apprenticeships in these 20 occupations make up almost 100% of all intermediate clerical, sales & service new apprenticeships.)

Box 5: New apprenticeships in specific occupations (4-digit ASCO[a]) that have more than 50 new apprentices in training, 1999 (cont.)

Intermediate production & transport occupations (2.9% of new apprenticeships)

7993 Storepersons (3610), 7991 Motor vehicle parts & accessories fitters (720), 7314 Delivery drivers (570), 7212 Textile & footwear production machine operators (530), 7310 Road & rail transport drivers[b] (400), 7129 Other intermediate stationary plant operators (380), 7111 Mobile construction plant operators (230), 7291 Plastics production machine operators (180), 7311 Truck drivers (170), 7995 Forestry & logging workers (120), 7996 Printing hands (110), 7315 Train drivers and assistants (80), 7911 Miners (60)

(New apprenticeships in these 13 occupations make up around 97% of all intermediate production & transport new apprenticeships.)

Elementary clerical, sales & service occupations (13.4% of new apprenticeships)

8211 Sales assistants (22 170), 8311 Guards & security officers (5090), 8297 Sales & service trainees (4230), 8116 Office trainees (2020), 8294 Telemarketers (410), 8315 Laundry workers (190), 8296 Service station attendants (130)

(New apprenticeships in these 7 occupations make up almost 100% of all elementary clerical, sales & service new apprenticeships.)

Labourers & related occupations (8.7% of new apprenticeships)

9111 Cleaners (5140), 9213 Meat & fish process workers (3360), 9214 Other food factory hands (2430), 9922 Nursery & garden labourers (1920), 9992 Freight & furniture handlers (1910), 9921 Farm hands (1640), 9916 Construction & plumbers assistants (1080), 9211 Engineering production process workers (1050), 9933 Foods trades assistants (810), 9918 Electrical & telecommunications trades assistants (680), 9931 Kitchen hands (590), 9215 Wood products factory hands (530), 9999 Other miscellaneous labourers & related workers (440), 9212 Product assemblers (340), 9929 Other agricultural & horticultural labourers (150), 9917 Concreters (90), 9219 Other process workers (60)

(New apprenticeships in these 17 occupations make up almost 100% of all new apprenticeships in the labourers & related occupations.)

New apprenticeships in the 144 occupations listed in this box make up almost 100% of all new apprenticeships in 1999.

Notes: (a) New apprenticeships by 4-digit Australian Standard Classification of Occupations (ASCO) occupational classification in all occupations with at least 50 new apprenticeships in training at end of June 1999. The 4-digit number in front of each occupation title is the 4-digit ASCO code. The number in brackets is the number of new apprenticeships in that occupation as at 30 June 1999 rounded to the nearest 10.

(b) Classification at the 4-digit ASCO level was not possible. This was classified at the 3-digit level.

(c) Classification at the 4-digit ASCO level was not possible. This was classified at the 2-digit level.

(d) This is the sum of ASCO 2-digit 43 electrical and electronics tradespersons and 3-digit 431 electrical and electronics tradespersons. In both cases 4 digit codes were not available.

(e) Includes 3-digit hospitality workers.

Source: NCVER (2000h)

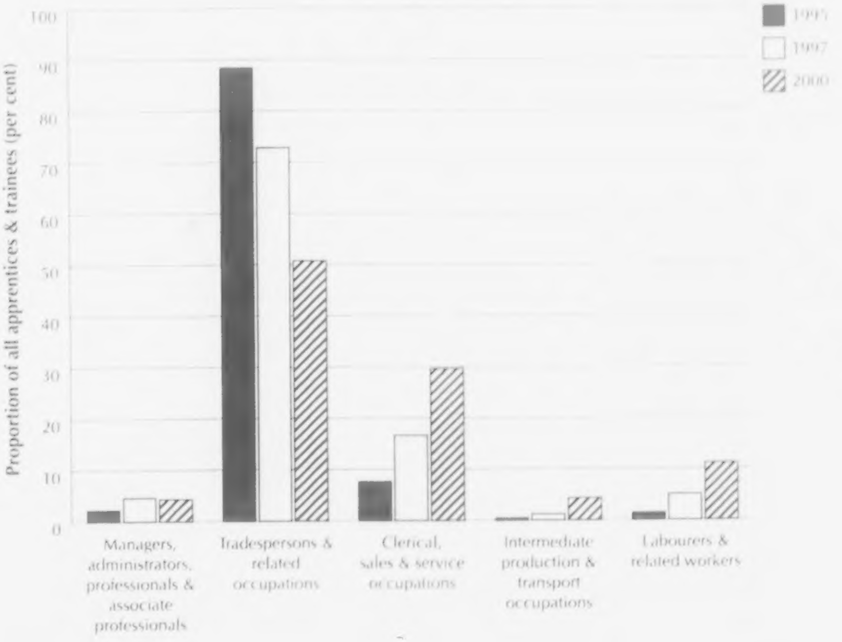
5.2 The broadening occupational base of apprenticeships and traineeships

One of the main reasons for adopting traineeships in the 1980s was to broaden the occupational base of the apprenticeship system. This principle also became a key objective in the new apprenticeships system.

As described in chapter 3, there was very little change to the situation of dominance of the apprenticeship and traineeship system by the traditional skilled trades in the first decade of traineeships up to 1995.

However this situation has changed dramatically since 1995 (figure 3). In 1995 nearly 90% of all apprenticeships and traineeships were in the skilled trades and the trade-related occupations in the labour market.

Figure 3: Changes in the importance of major occupational groups in apprenticeships and traineeships and new apprenticeships, 1995–2000



Source: NCVER (2000g)

By 1997 that proportion had fallen to less than three-quarters of all contracts of training. At the same time there was very strong growth in traineeships in the clerical, sales and service occupations—from under 8% in 1995 to over 16% of all apprentices and trainees by 1997. Traineeships for labourers and related occupations also grew strongly from a very low base between 1995 and 1997, reaching 5% of all apprenticeships and traineeships in 1997. There has also been some growth from very low bases in the proportion of apprentices and trainees in the managers and administrators, professionals and associate professionals, and the intermediate production and transport occupational groups.

In effect the roll-out of traineeships in the Australian labour market which was originally envisaged to occur in the mid-to-late 1980s, did not really happen until almost a decade later.

Naturally the growth of contracted training in the clerical, retail and service occupations (which previously did not support apprenticeship arrangements) means that the complete dominance of the system by the traditional skilled trades has waned.

These trends have continued at an even faster rate since the inception of the new apprenticeship system at the beginning of 1998. Tradespersons and related occupations now account for only half of the new apprenticeships system. Clerical, sales and service occupations now account for almost 30% of all new apprentices.

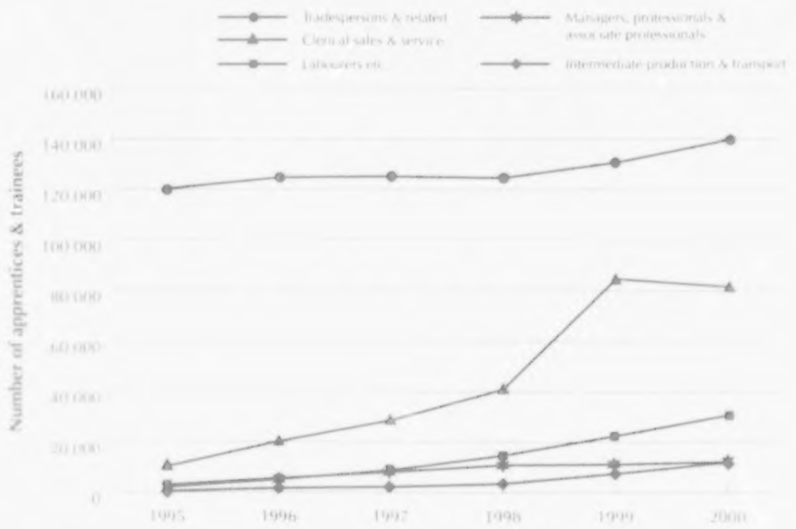
New apprenticeships in the labourers and related workers occupations have grown very rapidly to reach some 11% of all new apprentices in 2000.

These changes have led some observers to conclude that the new apprenticeship system has been responsible for a diminution in the level of training opportunities in the skilled trades. However, this is not the case. It is true that a smaller proportion of apprentices and trainees now come from the skilled trades. Yet, by definition, this would inevitably be the case if the occupational base of the apprenticeship and traineeship system were broadened.

An indication of that progress is given in figure 4. There has been very rapid growth in clerical, sales and service apprenticeships and traineeships from only 10 000 in 1995 to over 81 000 in 2000. This growth reached a peak of nearly 85 000 in 1999 and has declined slightly since.

There has also been substantial growth in the absolute numbers of apprentices and trainees in the labour and related worker occupations, from just 2000 in 1995 to over 30 000 in 2000. The numbers in training in the managers, administrators, professional and associate professional occupational categories have grown from 3000 in 1995 to over 12 000 today. Similarly, the numbers of apprentices and trainees in the intermediate production and transport occupations have grown from some five hundred in 1995 to almost 12 000 by 2000.

Figure 4: Growth in apprenticeships and traineeships and new apprenticeships in each major occupational group, June 1995–2000



Source: NCVER (2000g)

Yet this broadening of the occupational base of Australia's apprenticeship and traineeship system has been achieved without any diminution in the number of apprenticeship opportunities in the skilled trades and related occupations.

There was modest growth in training places in these trades from 120 000 in 1995 to 125 000 in 1997. However, since the establishment of new apprenticeships, the number of new apprentices in the skilled trades has grown strongly from just under 125 000 in 1998 to almost 140 000 in 2000. As mentioned in chapter 3, the number of apprentices in the skilled trades is now approaching the highest ever recorded in Australia. The year 2000 level of new apprentices in the skilled trades has only been exceeded by the apprentice numbers in the periods 1980–81 and 1988–92 (see apprentice numbers in table 1).

A more detailed breakdown of the massive change in the occupational structure of apprenticeships and traineeships is given in table 22.

The top six apprenticeship and traineeship categories in terms of overall numbers in training in 1995 were construction tradespersons (19.6% of all apprentices and trainees), automotive tradespersons (15.4%), mechanical and fabrication engineering tradespersons (14.7%), electrical and electronics tradespersons (11.2%), food tradespersons (10.9%) and hairdressers (7.2%). These were all in the traditional skilled trades and related areas in much the same occupational areas that dominated the apprenticeship system throughout the 1970s, 1980s and early 1990s (as discussed in chapter 3). Moreover, these trades still accounted for almost 90% of all apprentices and trainees in 1995.

Table 22: The occupational mix of apprenticeships and traineeships and new apprenticeships, 1995–2000

ASCO codes	Occupational group	No. in training at 30 June ('000)			Proportion of total apprenticeships and traineeships (%)		
		1995	1997	2000	1995	1997	2000
Managerial and professional							
1	Managers and administrators	1.6	2.8	2.8	1.2	1.6	1.0
2	Professionals	0.1	0.4	1.8	0.1	0.3	0.7
3	Associate professionals	1.3	4.8	7.5	1.0	2.8	2.7
	Sub-total	*3.0*	*8.0*	*12.1*	*2.3*	*4.6*	*4.3*
Trades & related occupations							
41	Mechanical & fabrication engineering tradespersons	20.0	21.3	18.9	14.7	12.3	6.9
42	Automotive tradespersons	21.0	23.8	23.9	15.4	13.9	8.7
43	Electrical & electronics tradespersons	15.3	16.7	19.4	11.2	9.7	7.0
44	Construction tradespersons	26.7	24.6	31.4	19.6	14.3	11.4
45	Food tradespersons	14.9	16.6	20.7	10.9	9.8	7.5
46	Skilled agricultural & horticultural workers	3.4	3.2	4.6	2.5	1.9	1.7
491	Printing tradespersons	2.3	2.2	1.9	1.7	1.3	0.7
4931	Hairdressers	9.8	9.5	10.7	7.2	5.5	3.9
4999	Other miscellaneous tradespersons & related workers	6.9	6.8	8.1	5.1	3.9	2.9
	Sub-total	*120.2*	*124.7*	*139.4*	*88.4*	*72.6*	*50.7*
Clerical sales & service workers							
5	Advanced clerical & service workers	0.1	0.2	0.1	0.1	0.1	0.1
61	Intermediate clerical workers	5.8	9.3	17.4	4.3	5.4	6.3
62	Intermediate sales & related workers	0.8	6.3	6.4	0.6	3.6	2.3
63	Intermediate service workers	1.4	6.0	24.0	1.0	3.5	8.7
81	Elementary clerical workers	0.0	0.0	1.6	0.0	0.0	0.6
82	Elementary sales workers	2.2	6.6	27.4	1.5	3.8	9.9
83	Elementary service workers	0.0	0.1	4.6	0.0	0.1	1.7
	Sub-total	*10.3*	*28.5*	*81.5*	*7.5*	*16.6*	*29.6*

Table 22: The occupational mix of apprenticeships and traineeships and new apprenticeships, 1995–2000 (cont.)

ASCO codes	Occupational group	No. in training at 30 June ('000)			Proportion of total apprenticeships and traineeships (%)		
		1995	1997	2000	1995	1997	2000
Intermediate, production & transport workers							
71/72	Intermediate plant & machine operators	0.2	0.7	2.7	0.2	0.4	1.0
73	Road & rail transport drivers	0.1	0.1	0.8	0.1	0.1	0.3
79	Other intermediate workers	0.2	1.3	8.4	0.2	0.7	3.0
	Sub-total	*0.5*	*2.1*	*11.9*	*0.4*	*1.2*	*4.1*
Labourers & related workers							
91	Cleaners	0.0	0.1	6.1	0.0	0.1	2.2
92	Factory labourers	1.3	4.8	8.4	1.0	2.7	3.0
99	Other labourers & related workers	0.7	3.8	16.1	0.5	2.2	5.9
	Sub-total	*2.0*	*8.7*	*30.6*	*1.4*	*5.0*	*11.1*
	Total all apprentices & trainees	**135.9**	**171.9**	**275.6**	**100.0**	**100.0**	**100.0**

Sources: NCVER (2000g)

This situation had changed markedly by 2000. The top six new apprentice occupational areas were construction tradespersons (11.4% of all new apprentices), elementary sales workers (9.9%), intermediate service workers (8.7%), automotive tradespersons (8.7%), food tradespersons (7.5%) and electrical and electronics tradespersons (7.0%). The 'top six' by 2000 accounted for only two-thirds of all new apprentices, and are no longer dominated by the skilled trade occupations. In fact the 1995 'top six' which were all skilled trades and made up 80% of all apprentices and trainees at that time, accounted for only 54% of all new apprentices in 2000.

These trends, more than anything else, reflect the extent to which rapid progress has been made in broadening the occupational coverage of the labour market by new apprenticeships in recent years.

The rapid change in the occupations that constitute the apprenticeship system is shown in table 23 (page 68). The top ten specific occupations in the system, in terms of the numbers in training, are shown for 1995, 1997 and 2000.

In 1995 the top ten specific occupations in the apprenticeship and traineeship system were all apprenticeships in the traditional trades and related occupations, except for general clerical traineeships. These top ten alone accounted for over 60% of the total numbers in training in 1995.

By 2000 the top ten specific new apprenticeships only accounted for 45% of the total numbers in training and only five of the top ten new apprenticeships were in the traditional trades. Sales assistants were number one in 2000 and had only ranked 17 in 1995. Two new apprenticeships, freight and furniture handlers (at number 8 in 2000) and sales and service trainees (at number 10) ranked 79 and 136 respectively in 1995 (table 23).

This broadening of the occupational base of new apprenticeships to cover a much wider range of occupations has seen the apprenticeship and traineeship system move much more into line with the structure of employment across the Australian labour market.

For instance, new apprenticeships in the clerical, sales and service occupations now make up almost 30% of all new apprenticeships. These occupations account for just over 30% of all jobs in Australia as shown in table 24 (page 69).

Similarly, some 11% of new apprenticeships are now in labourer and related occupations, and labourers and related occupations account for almost 10% of the workforce (table 24).

As shown in figure 5 (page 69), this situation has changed very rapidly since the mid-1990s, where apprentice and trainee numbers in the clerical, sales and service and labourer occupations were well below the respective shares of these occupations in the workforce in 1995.

Managers and administrators and professionals make up over a quarter of the Australian workforce, yet contracts of training in these occupations still account for less than 2% of all new apprenticeships (table 24). While remaining a small component, apprenticeships and traineeships in these occupations more than doubled in number since 1995, and have increased their share of total apprenticeships and traineeships since 1995 (figure 5).

The low share of new apprenticeships in these occupations is to be expected given that the main avenue for gaining qualifications for the managerial and professional occupations are degree qualifications from universities. Some two-thirds of all university graduates gaining a bachelor's degree who enter employment do so in a managerial or professional occupation (NCVER 2000d).

The associate professional occupations are a rapidly growing part of the labour market, now accounting for nearly 14% of all jobs in Australia. As shown in figure 5, the associate professional jobs share was less than 6% in 1995.

Despite the more than doubling in both the number and relative share of apprentices and trainees in associate professional occupations since 1995, they still only make up less than 3% of all new apprentices (figure 5). There is considerable potential for an expansion of the coverage of new apprenticeships in the associate professional occupations in the labour market (table 24).

Table 23: The top 10 apprenticeships and traineeships and new app

Apprenticeships & traineeships in 1995			Apprenticeships & trainee	
Occupation	Proportion of all apprenticeships & traineeships (%)	Rank	Occupation	Propor of a apprentic & traine (%
Motor mechanics	10.8	1	Motor mechanics	8.
Carpentry & joinery tradespersons	9.8	2	Carpentry & joinery tradespersons	7.
Electricians	7.9	3	Electricians	6.
Hairdressers	7.2	4	Cooks	6.
Cooks	6.8	5	Hairdressers	5.
Metal fitters & machinists	5.3	6	General clerks	5.
Plumbers	4.3	7	Sales assistants	3.
General clerks	4.1	8	Sales representatives	3.
Cabinetmakers	2.8	9	Plumbers	3.
Meat tradespersons	2.1	10	Metal fitter & machinists	3.
Total	**61.0**			**52.**

Source: NCVER (2000g)

renticeships, 1995, 1997 and 2000

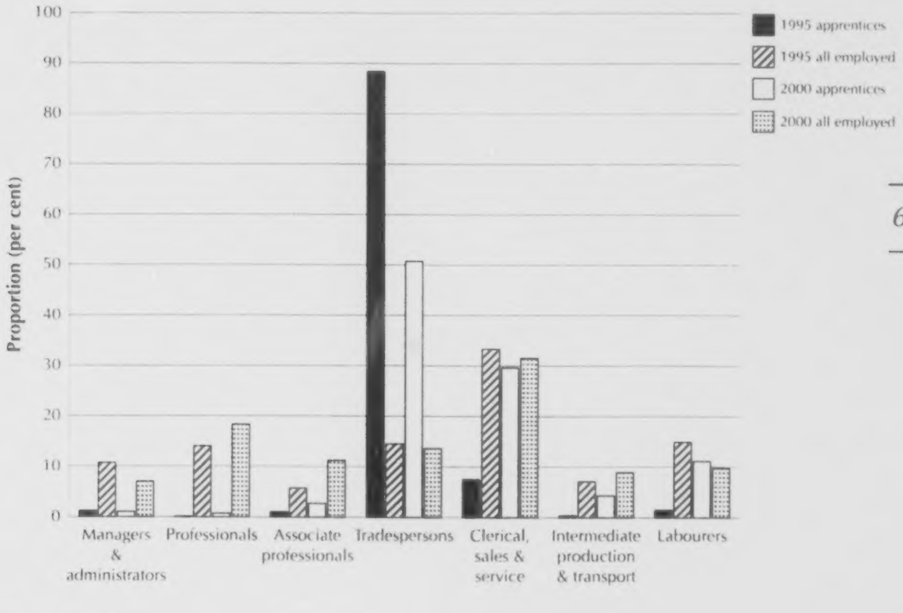
ships in 1997		New apprenticeships in 2000			Comparative ranking	
tion ll eships eships)	Rank	Occupation	Proportion of all new apprenticeships (%)	Rank	Rank in 1997	1995
6	1	Sales assistants	6.8	1	7	17
		General clerks	6.0	2	6	8
)	2					
4	3	Motor mechanics	5.3	3	1	1
1	4	Carpentry & joinery tradespersons	5.2	4	2	2
5	5	Cooks	4.3	5	4	5
3	6	Electricians	4.2	6	3	3
7	7	Hairdressers	3.7	7	5	4
4	8	Freight & furniture handlers	3.6	8	95	79
3	9	Storepersons	2.9	9	50	82
2	10	Sales & service trainees	2.8	10	145	136
4			**44.8**			

Table 24: New apprentices and all employed persons by occupations, 2000

Occupational group	No. employed ('000)		Proportion of total (%)	
	New apprentices	All employed persons	New apprentices	All employed persons
Managers & adminstrators	2.8	634.4	1.0	7.0
Professionals	1.8	1645.4	0.7	18.3
Associate professionals	7.5	1013.2	2.7	11.2
Tradespersons & related workers	139.4	1202.5	50.7	13.6
Clerical sales & service workers	81.5	2842.5	29.6	31.5
Intermediate production & transport workers	11.9	802.6	4.3	8.9
Labourers & related workers	30.6	875.9	11.1	9.7
Total	**275.6**	**9016.5**	**100.0**	**100.0**

Sources: ABS (2000a); NCVER (2000g)

Figure 5: Apprentices and trainees and new apprentices and all employed persons by occupation, 1995 and 2000



Source: NCVER (2000g)

Intermediate production and transport occupations are a modestly growing job area. As shown in table 24 these occupations account for some 9% of all jobs in Australia, but still only make up just over 4% of new apprenticeships. This is also a potential area for some future growth in new apprenticeships even though substantial growth has been experienced in new apprenticeships coverage of those occupations since 1995. The share of these occupations in all new apprenticeships increased tenfold from 0.4% in 1995 to 4.3% in 2000, as shown in figure 5.

Despite the decline in the relative share of the skilled trades in new apprenticeships to just over 50%, the actual number of apprentices (and trainees) in the skilled trades occupations grew by some 20 000, by over 16%, between 1995 and 2000 (figure 5). This growth far outstripped the growth in total skilled trades employment since 1995, which was only 1%. Thus the coverage of new apprenticeships in the skilled trades labour market is higher today than it was in 1995, even though the relative share of skilled trades new apprenticeships as a proportion of all new apprenticeships has fallen since the mid-1990s.

As shown in table 24, skilled trades new apprenticeships still make up 50.7% of all new apprenticeships, yet skilled trades occupations make up less than 14% of all jobs in Australia. Nevertheless, this pattern is to be expected given that the new apprenticeship system is based on an apprenticeship that was largely designed to provide training for entry to the skilled trades.[11]

This analysis demonstrates that broadening the occupational base of apprenticeships and traineeships beyond the traditional trades has been in line with the occupational shifts that have occurred in the Australian labour market. The occupational structure of new apprenticeships today is far closer to the occupational structure of the Australian labour market as a whole than at any time in the history of our structured training system.

5.3 Changes in the intensity and level of training undertaken

The other major change in the structure of apprenticeships and traineeships in Australia has been an opening-up of the system to the full range of AQF qualification levels and to more flexible training programs of varying lengths.

Prior to the mid-1990s, apprenticeship training in the traditional trades at the trade certificate level (equivalent to AQF certificate 3 level) dominated the system. These apprenticeships are usually undertaken over a four-year period. Traineeships at that time were mostly of one year's duration at the equivalent of AQF certificate 2 level.

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[11] A more detailed analysis is also given in Freeland (2000). The impact of labour market change in Australia and the apprenticeship and traineeship system is described in more detail in appendix 3.

This situation has changed markedly since the mid-1990s. Over 40% of all new apprenticeships are in contracts of training of over three years' duration and include contracts of four years' duration. This is the category where most trades apprenticeships are found (table 25). A very small proportion (1.3%) are in contracts of over four years' duration.

Table 25: The duration of new apprenticeships, June 2000

Duration	No. in training ('000)	Proportion of total (%)
1 year or less	55.0	19.9
Over 1 year and up to and including 2 years	50.9	18.5
Over 2 years and up to and including 3 years	48.4	17.6
Over 3 years and up to and including 4 years	117.8	42.7
Over 4 years	3.6	1.3
Total	**275.6**	**100.0**

Source: NCVER (2000g)

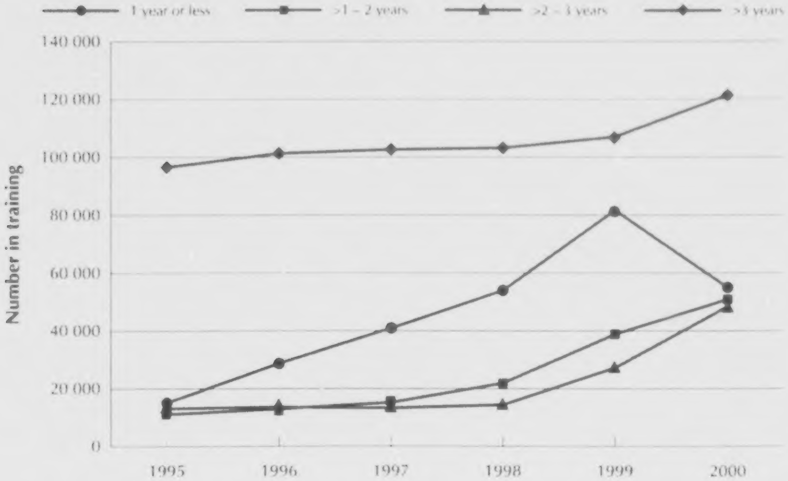
There is a fairly even spread of new apprenticeships in the shorter duration contracts of training. Some 20% are in contracts of training of one year or less. Some 18.5% are in new apprenticeships which last between one and two years and 17.6% are in contracts of between two years and three years (table 25).

Changes since the mid-1990s are shown in figure 6. Apprenticeships and traineeships of over three years' duration were stable for most of the period since 1995, but have experienced rapid growth over the past year. The numbers of people in contracts of training of between one and three years' duration have grown significantly since the advent of new apprenticeships in 1998. There has been a major decline in the numbers of people in contracts of training of one year or less since 1999.

The increasing numbers of part-time apprentices and trainees has an effect on the apparent duration of training, which can be up to double the norm. Most part-time apprenticeships and traineeships are more than one year's duration, ranging up to three years. This must be taken into account when considering apprentices and trainees by duration of training, since it can no longer be assumed that longer contracts are equivalent to traditional apprenticeships.

In terms of the qualifications being sought by new apprentices, some 75% are in new apprenticeships at the AQF certificate III level, as shown in table 26. Some 3% are at even higher levels, at certificate IV, diploma or advanced diploma levels. Some 20% of new apprenticeships are now at certificate II level, and certificate I programs are now an insignificant element of the system.

Figure 6: The duration of apprenticeships and traineeships and new apprenticeships, June 1995–2000



Source: NCVER (2000g)

Table 26: The AQF qualification levels being sought by new apprentices, June 2000

AQF qualification	No. in training ('000)	Proportion of total (%)
Certificate I	0.1	0.1
Certificate II	57.2	20.7
Certificate III	207.6	75.3
Certificate IV/diploma/advanced diploma	8.4	3.1
Not known	2.3	0.8
Total	**275.6**	**100.0**

Source: NCVER (2000g)

Reforms to the apprenticeship and traineeship system have been criticised because the share of apprentices and trainees in certificate III training has fallen from 84% in 1995 to 75% in 2000.

However, this masks the tremendous growth in contracts of training at the certificate III level. As shown in table 27, certificate III training has grown by over 90 000 places since 1995 to reach a level of almost 208 000 new apprentices in certificate III programs in 2000. This represents a growth of over 80% since 1995.

The number of new apprentices in certificate III programs is now far higher than at any other stage in the system's history. For example, in the so-called 'golden years' of apprentice training at the end of the 1980s and at the beginning of the 1990s, the number in programs equivalent to certificate III level peaked at around 160 000.

Whether this accurately reflects demand for, and provision of training at this level rather than uptake of incentives cannot be ascertained from these data. Some observers (Schofield 1999a) have suggested a need to review the AQF to ensure consistency across disciplines and fields of study. A more qualitative analysis is needed to determine the application of the legitimacy or otherwise of the AQF to training provided for apprentices and trainees.

There has been strong growth from a very low base in the numbers in certificate IV or higher-level programs. The number at this level reached almost 8500 in 2000, having grown from just a few hundred in the mid-1990s (table 27).

There has been a sixfold increase in the number at certificate II level, with the number having risen from less than 9000 in 1995 to nearly 58 000 in 2000 (table 27).

Certificate I training is an insignificant and disappearing element of the system. By 2000 only 140 new apprentices were at the certificate I level (out of a total of nearly 276 000).

Table 27: The level of AQF qualifications of apprenticeships and traineeships and new apprenticeships, June 1995–2000 ('000)

	1995	1996	1997	1998	1999	2000
AQF I	0.6	0.5	0.4	0.3	0.2	0.1
AQF II	8.8	22.7	31.8	44.9	53.8	57.2
AQF III	114.4	120.8	126.9	137.1	188.2	207.6
AQF IV or higher	0.3	0.4	1.1	3.4	8.3	8.4

Source: NCVER (2000g)

5.4 The emergence of part-time apprenticeships

Traditionally, apprenticeships and traineeships were full time, with the total hours for the on-the-job plus off-the-job training set at the normal weekly hours for the industry or occupation. Although some States provided an option to do an apprenticeship or traineeship part time (that is, total hours of less than 35 per week), this did not become a significant feature of the system until the introduction of new apprenticeships. Since 1 January 1998 there has been a steady increase. For commencements, part-time apprentices and trainees comprised 8.4% in 1998, 16.4% in 1999 and 19.2% in 2000, while for the numbers in training, the percentages are 5.4% in 1998, 11.8% in 1999 and 16.5% in 2000. Part-time apprenticeships or traineeships typically range from 50% of the normal working week to something approaching, but not reaching, 100%.

Part-time apprenticeships now form a very significant feature of the system, having grown in number to reach more than 45 000 in 2000. Part-time apprenticeships now represent over 16% of all new apprenticeships (table 28).

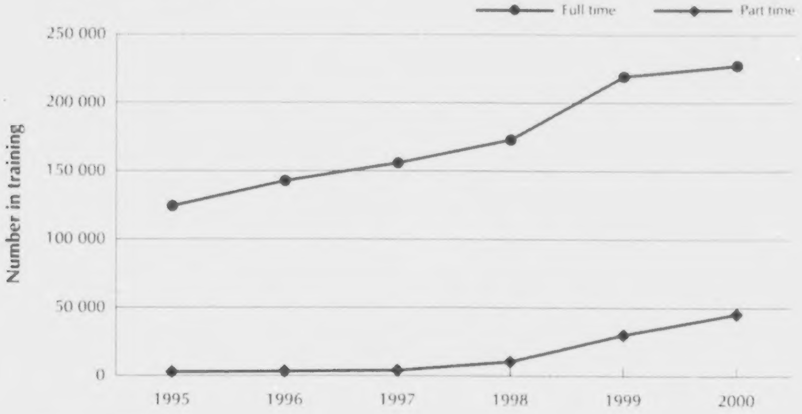
Table 28: Full- and part-time new apprenticeships, June 2000

Mode of new apprenticeship	No. of new apprentices ('000)	Proportion of total (%)
Full-time	227.3	82.5
Part-time	45.4	16.5
Mode not known	3.0	1.1
Total	**275.6**	**100.0**

Source: NCVER (2000g)

The growth in part-time apprentices and trainees since 1995 has been rapid, as shown in figure 7. Part-time numbers have risen from only 2700 in 1995 to 45 000 in 2000. Over the same period the number of full-time apprentices and trainees has risen from just over 124 000 to over 227 000.

Figure 7: Growth in full- and part-time apprenticeships and traineeships and new apprenticeships, June 1995–2000



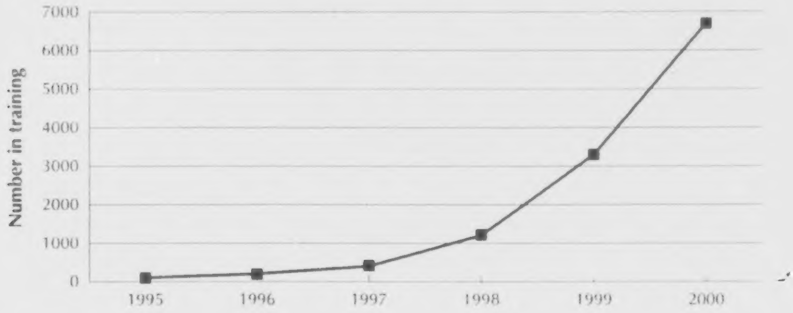
Source: NCVER (2000g)

5.5 The recent introduction of school-based apprenticeships

Another small, but growing feature of apprenticeships, traineeships and new apprenticeships is the emergence of school-based new apprenticeships.

The numbers in school-based new apprenticeships have grown rapidly from just over 100 in the mid-1990s to over 6000 by 2000. This rapid growth is illustrated in figure 8. The proportion of school-based new apprenticeships grew from 0.6% to 2.2% of all new apprenticeships from 1998 to 2000.

Figure 8: The growth of school-based apprenticeships and traineeships and new apprenticeships, June 1995–2000



Source: NCVER (2000g)

The interesting feature of school-based new apprenticeships has been their take-up in Queensland. By 2000 Queensland had more than half of Australia's school-based new apprenticeships, as shown in table 29.

Table 29: School-based new apprenticeships, June 2000

Location of new apprenticeship	No. of new apprentices ('000)	Proportion of total (%)
Queensland	3.2	51.6
The rest of Australia	2.8	48.4
Total Australia	**6.2**	**100.0**

Source: NCVER (2000g)

5.6 The declining importance of public sector apprenticeships and traineeships

Over 80% of all employers of apprentices are in the private sector as shown in table 30. This proportion has changed very little since the mid-1990s, despite the fact that the overall numbers of apprentices and trainees have grown so much in that period (figure 9).

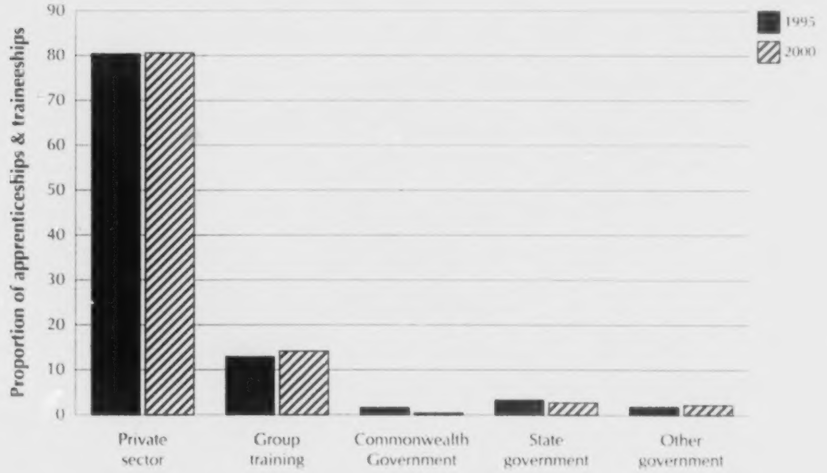
Some 14% of new apprentices are now employed by group training companies. Group training companies were developed to enable apprentices and trainees to be placed with more than one employer over the life of an apprenticeship or traineeship in those cases where single employers could not offer a complete apprenticeship or traineeship but wished to participate in the system. Almost all of these new apprenticeships entail work placements with private sector businesses or organisations. Originally much of this activity involved placements with small business. However, the use of group training companies as the alternative to direct employment of apprentices and trainees by larger business is not uncommon. The share of group training companies as the direct employer of apprentices and trainees has grown modestly from 12.9% in 1995 to 14.1% in 2000 (figure 9).

Table 30: Type of employer of new apprentices, June 2000

Employer type	No. of new apprentices ('000)	Proportion of total (%)
Private sector	222.2	80.6
Group training	38.9	14.1
Commonwealth Government	1.0	0.4
State government	7.4	2.7
Other government*	6.2	2.2
Total	**275.6**	**100.0**

Note: *Other government covers local government and government business enterprises.
Source: NCVER (2000g)

Figure 9: Type of employer of apprentices and trainees and new apprentices, June 1995 and 2000



Source: NCVER (2000g)

Less than 6% of all new apprenticeships are with government employers, even though public sector employment makes up some 16% of total employment in Australia.

There has been a long-term decline in the importance of public sector apprenticeships and traineeships (figure 9), particularly in relation to the Commonwealth's role as an employer of apprentices and trainees. There has also been a long-term decline in the importance of public sector apprenticeships and traineeships at the State level. As Toner (1998) points out this has been partly the result of the break-up and privatisation of government assets such as utilities, which were traditionally large employers of apprentices. The smaller privatised companies that have often replaced these government monopolies now employ fewer apprentices and, of course, increasingly operate in the private sector.[12]

5.7 The re-emergence of fully on-the-job training

The original apprenticeships in Australia were undertaken fully on the job. Ray (2001) reported that throughout the last half of the twentieth century, 'the provision of formal training (typically for one day per week for three years) became universal and on-the-job apprentice training virtually disappeared' (Ray 2001, p.33).

Fully on-the-job training re-emerged under the NETTFORCE arrangements introduced by the Federal Labor Government in 1994 and 1995. This gave employers the capacity to provide training entirely on the job in a contract of training if they wished. For the first time in the post-Second World War period the traditional mix of on- and off-the-job training was no longer a mandatory requirement in a contract of training. This development has again ignited debate about the relative worth of on- and off-the-job training in both traineeships and apprenticeships and the appropriate balance between the two.

Ray (2001) reported that at this time:

> *Concerns about the quality of training and quality assurance became common. Often they were related to the growth of 'on-the-job only' traineeships. For example, 'many people considered that the pressure to increase trainee numbers was creating a trade off between quality and quantity. They referred again to the history of training and the long struggle to improve the quality of apprentice training such as by requiring employers to release apprentices to attend TAFE'.*
> (Ray 1996, cited in Ray 2001, pp.29–30)

Controversy about fully on-the-job training continues. In its report, *Aspiring to excellence,* the Senate Employment, Workplace Relations, Small Business and Education Reference Committee notes that the term 'on-the-job training' is often confused with 'workplace training'. In its submission to the committee, the Admin Training Company further comments as follows:

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[12] More statistical information about changes to the structure of apprenticeships, traineeships and new apprenticeships is given in appendix 1, tables 85–99.

> *There has been much confusion over the term on the job training. For some it has a negative connotation of never being removed from routine work practice to be trained. It means learning by default by being left alone in a work situation… Training in the workplace can take place in a variety of ways: instruction by a supervisor away from the work station, followed by practice at the work station; instruction sessions run by an RTO (registered training organisation) on site; self-paced learning using flexible materials, illustrating assignments etc. with real work situations.*
>
> (Senate Employment Workplace Relations, Small Business and Education References Committee 2000, p.186)

The committee's report goes on to note that many employer groups in their submissions strongly supported on-the-job training and expected to see it increase. At the same time submissions from providers stressed the limited resources available to some employers to provide the depth and breadth of training they believed necessary (Senate Employment Workplace Relations, Small Business and Education References Committee 2000, pp.188–9). Misko et al. (2001) has also noted the difficulty employers encounter in providing theoretical training in on-the-job traineeships.

National data about fully on-the-job training does not exist. Part of the difficulty stems from the fact that definitions of what constitutes fully on-the-job training are ambiguous and problematic. Estimates based on deriving numbers indirectly or on small samples, or on the judgement and beliefs of those working in the system differ considerably, enabling no clear national estimate to be made of how many new apprenticeships might really be fully on the job.

Interest in the impact and extent of fully on-the-job training was sparked by an inquiry into the quality of apprenticeships conducted by Schofield (1999a) for the Queensland Department of Employment, Vocational Education, Training and Industrial Relations. In this report, Schofield suggests that 'for many trainees, the traineeship program may be reinforcing existing skills and knowledge rather than extending them' (1999a, p.99).

A survey commissioned as part of the review found that 19% of trainees claimed to have received no training from their registered training organisation (presumably, off-the-job training). The report goes on to say:

> *Doubts must be raised at AQF levels 3 and above where the training is provided 'fully on-the-job'. At these levels it is most unlikely that the broad range of competencies, transferable skills and underpinning knowledge could be acquired and assessed properly without the substantial involvement of an RTO and the withdrawal of the trainee from daily work processes.* (Schofield 1999a, p.44)

Nevertheless, fully on-the-job training appears to be a viable option for some employers and new apprentices. Misko et al. (2001) found that 80% of trainees in office administration and small business believed that on-the-job traineeships helped to build appropriate skills for work. Only one in ten trainees in office administration and one in 20 small business trainees did not believe this to be the case. About half of the trainees from both areas believed that they had received adequate assistance during training and just over two-thirds of both groups believed that on-the-job traineeships had provided an environment which was safe for learning. At the same time, 84% of employers reported that they would recommend these traineeship programs to others.

In looking at on- and off-the-job approaches to learning and assessment, research by Strickland et al. (2001) supports the value of the workplace as a learning environment and further demonstrates the pervasiveness and value of informal training in the workplace in the development of apprentices and trainees. The study characterises ways of organising learning and assessment into three different models:

- approaches which combine learning in the workplace and in off-site environments geographically removed from the workplace (for example, TAFE or private provider)
- approaches which include learning at work and withdrawal from normal work duties to attend training in a separate room or skill centre at the enterprise
- approaches which use day-to-day work as the sole site for learning

Trainees in workplace-only contracts rated workplace aspects as more important for their learning than those in integrated contracts involving both on- and off-the-job training. However the report concludes that the situation of trainees in workplace-only contracts is of concern: the gap perceived between aspects of the workplace they judge to be important for their learning and the reality of their workplaces, is substantial. The authors found that this supported earlier analyses undertaken by Schofield (1999a) and Smith (2000).

It is not possible on the available evidence to completely evaluate the effectiveness of fully on-the-job training. How effective and how enduring a form of contracted training this is remains to be seen. However, in looking at this question, it is important to recognise that training in new and emerging occupations, particularly in the service sector, but not exclusively, may well require new models of training delivery. Without further examination it is difficult to reach any definitive conclusions but it may well be the case that on-the-job training is more suited to certain occupations and levels of training.

Interestingly, looking across the range of studies cited here, the strongest advocacy of off-the-job training comes from providers, while the strongest advocates for on-the-job training appear to be employers. In the middle, and seeming to appreciate the opportunities for the mix of the two are the apprentices and trainees themselves.

The jury is still out on the efficacy of fully on-the-job training. There is also considerable evidence to suggest that the very appeal of more traditional forms of apprenticeships (at least in the post-Second World War period) is the capacity to integrate workplace-specific training with more generic skills training provided through institutional settings.

What is clear is that there is sufficient evidence at this early stage of the reintroduction of fully on-the-job apprenticeships and traineeships to suggest that we should only proceed slowly and with great caution down this route. This is particularly true where the training involves young people and/or entry-level training, in other words, when foundation skills for lifelong learning and skills acquisition are laid.

5.8 The quality of the system

The major developments in the apprenticeship, traineeship and new apprenticeship system, along with a quantitative analysis of trends and patterns of participation, are examined in this report. With such massive growth in the numbers in the system, it is not surprising that the issue of the quality of the system has been raised in recent years.

The Senate in their recent inquiry into the quality of vocational education and training concluded that:

> *During the committee's inquiry, most stakeholders indicated strong support in principle for the New Apprenticeships scheme. Support is especially strong from industry sectors with little history of formal training. They welcome what they see as the greater flexibility and responsiveness of the new system and the choice now offered to employers and their apprentices and trainees. They particularly approved the extension of training opportunities into new areas, a key objective of the New Apprenticeships system and its predecessors. The Australian Chamber of Commerce and Industry and its members, for example, have expressed their strong support for the National Training Framework and all underpinning frameworks and strategies. The Australian Retailers Association describe the National Training Framework as 'a key component in the creation of a less complex and more responsive arrangement that better meets the needs of employers and employees by providing a nationally consistent, flexible, industry driven learning system'. The Housing Industry Association believes the policies and processes of the New Apprenticeship system are desirable.*
>
> *However, few submissions provide unconditional support, with most referring to a number of perceived weaknesses in policy, in the design of quality assurance measures or with implementation. Paradoxically, the source of these concerns are the features of the system which are perceived as its greatest strengths: the flexibility, choice, the quality assurance and less regulation provided by User Choice, National Training Packages, the Australian Recognition Framework and New Apprenticeship Centres.*
>
> *The committee identified five main areas that are the source of claims about poor quality training services and lack of confidence in the value and integrity of qualifications and skills being achieved through New Apprenticeships. These are*

> *the performance of some registered training providers, the customisation or tailoring of training to meet enterprise specific needs, workplace training and assessment, the implementation of Training Plans, and the performance of New Apprenticeship Centres.*
>
> (Senate Employment, Workplace Relations, Small Business and Education References Committee 2000, pp.172–3)

Schofield carried out a number of investigations of the quality of apprenticeships and traineeships in particular States and Territories in recent years.

In Queensland, when reviewing the quality of the traineeship system, Schofield (1999a) concluded that:

> *A quality traineeship system is one that is effective, fit for purpose, efficient and accountable and in which all the individual components work together to achieve its objectives. For many thousands of trainees and their employers, traineeships are a positive experience, delivering on their promise of enhanced skills and improved employment prospects … Notwithstanding some strengths and some quality characteristics, the investigation has concluded that, on the whole, Queensland's traineeship system is only partly effective, is not fit for purpose, is inefficient and its accountability framework is not as strong as it needs to be. In short, it cannot reasonably be described as a quality system.*
>
> (Schofield 1999a, p.ii)

The evidence Schofield used to reach this conclusion was based on the results of a small survey carried out as part of the Queensland review. Its findings included the following:

- *19% of trainees said they received no training from their registered training organisation (RTO)*
- *27% of employers and 37% of trainees said they had no involvement in the development of training plans*
- *22.5% of employers said they were not satisfied with assessment delivered by the RTO*
- *26% of trainees felt that they should have commenced their traineeship at a higher level* (Schofield 1999a, pp.ii–iii)

In reviewing the quality of Tasmania's traineeship, Schofield concluded that:

> *Measuring the quality of training and assessment in any form of training is a most imprecise science, still in its infancy in Australia and elsewhere. Customer satisfaction is one helpful but not totally valid measure. To the extent that it can be determined from available customer satisfaction data, training quality in Tasmania does not appear to have been traded off for traineeship quantity. The majority of customers—both employers and trainees—are reasonably satisfied with most aspects of traineeship training.* (Schofield 1999b, p.iv)

Schofield went on to say:

> *However, for some aspects of training, employer and trainee dissatisfaction levels are a cause for concern. Areas of particular concern include the level of employer dissatisfaction with the method of training delivery (17.4%); that trainees are slightly less satisfied than apprentices with the ability of trainers; that although the numbers are small, 6% of trainees in non-TAFE RTOs expressed dissatisfaction with the relevance of training to their career choice compared with 3.6% of trainees in TAFE; and that only 60.2% of employers indicate satisfaction with the relevance of training to their organisation.* (Schofield 1999, p.iv–v)

Schofield drew some similar conclusions when reviewing the quality of Victoria's apprenticeship and traineeship system:

> *The management of Victoria's apprenticeship and traineeship system has a number of strengths … Its end users (employers, apprentices and trainees) are well satisfied with the services currently provided; the majority of RTOs are delivering services according to their contractual and other obligations, the provider audit and review program is being continuously improved; the legislative framework is essentially in place and many aspects of administration of the system are reasonably efficient.*
>
> *At the same time there are significant weaknesses … These include too many incidences of non-compliance by both employers and providers with their legal and moral obligations to apprentices and trainees; provider registration and audit processes which are not sufficiently rigorous or consistent and not sufficiently informed by an industry perspective; insufficient effort applied to the auditing of and reviewing of workplace training, weak arrangements for dealing with apprentice/trainee complaints and grievances; some significant problems with the user choice system which are reducing training quality; administrative inefficiencies which add to provider costs unnecessarily; and governance which in the past has not actively promoted collaboration; quality training delivery and ethical market practices.* (Schofield 2000, pp.iv–v)

Schofield went on to say that in Victoria:

> *There are too many instances where, in an effort to cut corners for financial reasons, the quality of training received by apprentices and trainees has been compromised.*
>
> *The absence of a training plan for more than 40% of apprentices and trainees suggests that training is not always effectively planned and documented and that apprentices and trainees are not always regarded as active participants in the training process.* (Schofield 2000, pp.v–vi)

Schofield's work in each of these States was based on consultations, focus groups, interviews, surveys (with small samples) conducted especially for the respective reviews, submissions and reviews of available administrative data. As such it does not represent a definitive national picture of the extent of any quality problems in the apprenticeship and traineeship system.

We can refer to national data on employer and apprentice and trainee satisfaction with the quality of apprenticeship and traineeship training to get a better overall national picture. Clearly, client satisfaction, or the lack of it, is as Schofield said, 'one helpful but not totally valid measure' of quality. It does, however, give a useful indication of the overall perceptions of employers and apprentices and trainees of the system.

As shown in table 31, over 80% of employers of new apprentices in 2000 were satisfied or very satisfied with the training provided. Nearly 70% thought the skill levels were appropriate to their enterprise needs and over 70% thought the training received paid for itself through increased productivity. The employers of new apprentices had almost identical satisfaction ratings of the system as those of VET graduates generally.

Table 31: Employers' satisfaction with the training system

Indicator	**Proportion who agreed or strongly agreed**	
	Employers with at least one new apprentice	Employers with at least one TAFE graduate
Skill levels are appropriate to employer needs	68	69
The training has paid for itself through increased productivity	72	74
Overall satisfied or very satisfied with the training provided	81	83

Source: Unpublished NCVER data from the 2000 employer satisfaction survey

Moreover, the national employer satisfaction survey also found that employers with an apprentice or trainee (9%) were less likely to nominate work skills as a priority for improvement than were other employers (22%) which indicates that employers are, in the main, reasonably happy with the skill levels of apprentices and trainees.

As shown in table 32, two-thirds of apprentices and trainees (who undertook off-the-job training in TAFE as part of their apprenticeship or traineeship), rated training they received as being excellent.

Table 32: Graduate satisfaction with training—apprentices/trainees and all TAFE graduates, 2000

	Apprentice/trainees %	**All graduates** %
Course highly or somewhat relevant	93	77
Overall quality of the training rated as excellent (i.e. 8 or more out of 10)	64	67

Source: Unpublished data from the NCVER student outcomes survey

When asked about the relevance of their training to employment, apprentices and trainees were even more complimentary, with nine out of ten (93%) reporting it highly or somewhat relevant. This was much higher than the figure reported for all responding TAFE graduates (77%).

Other results from the survey showed that of the new apprentices (who did a TAFE course):

- 67.0% thought the training they had done was useful or very useful for their job prospects.
- 67.5% said the qualification they had gained as a new apprentice was well regarded by employers.
- 69.5% were satisfied or very satisfied with their instructor's knowledge of the subject content, but only 53.4% thought the balance between instruction and practice was right and only 56.8% thought methods of assessment had been made clear to them.

Overall, this level of client satisfaction is remarkable given that the size of Australia's apprenticeship and traineeship system has doubled since the mid-1990s.

Yet it is also clear that there are at least some significant 'pockets' in the system where quality training is not being provided and where concerns have been raised that do need to be addressed. In some jurisdictions, issues such as the lack of a training plan in up to 40% of cases, around 20% of trainees saying they receive little or no training, over a quarter of employers and over a third of trainees saying they had no involvement in the development of the training plan, suggest that in some situations there are particular shortfalls in quality of training under the system.[13]

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[13] Further research into some of these issues is reported in the accompanying volume to this report, *Australian apprenticeships: Research readings* (Smart 2001).

6 The changing characteristics of apprentices, trainees and new apprentices

6.1 The age and gender of apprentices, trainees and new apprentices

The focus of the apprenticeship system has traditionally been on entry-level training for school leavers, in particular those seeking to enter the skilled trades and related occupations.

The 1984 Committee of Inquiry into Labour Market Programs found that 'females still only comprise about 10% of all apprentices, the vast majority of whom are employed in hairdressing' (Kirby 1985, p.124).

At that time, apprentices were all young people, the vast majority being school leavers at the point of entry into apprenticeships. The report also noted that:

> *The Australian apprenticeship system currently provides employment and training opportunities for about 18% of all school leavers. It caters for 33% of all male school leavers and only 4% of female school leavers.* (Kirby 1985, p.124)

One of the key reasons for establishing traineeships to complement the apprenticeship system was to diversify the range of occupations covered by contracts of training, partly to ensure that occupations with higher levels of female participation might also be included in the apprenticeship and traineeship system.

As noted in chapter 3, age restrictions for entry to apprenticeships were lifted in 1992.

The situation described by Kirby had, however, changed very little by the early-to-mid-1990s. For instance the NCVER (1994) reported that by May 1993 only 12.8% of apprentices were female. By the early-to-mid-1990s the introduction of traineeships and a number of attempts by governments to increase the proportion of females entering trades apprenticeships had failed to raise the level of female participation much over their participation levels in apprenticeship in the early 1980s.

In terms of the age of apprentices, almost 90% of first-year apprentices were still teenagers. Almost all of the remainder were in their early twenties. In terms of all apprentices (that is, first year through to fourth year), 60% were teenagers in 1993. Most of the rest were aged 20–24 years, with only some 2.5% aged 25 years or older.

There has been a substantial increase in both the absolute numbers of female apprentices and trainees and the relative proportion of females in the apprenticeship and traineeship system since the mid-1990s, as shown in table 33.

Table 33: The growth of female participation in apprenticeships and traineeships and new apprenticeships, June 1995–2000

Year	Males		Females	
	No. in training ('000)	Proportion of total (%)	No. in training ('000)	Proportion of total (%)
1995	113.5	83.5	22.5	16.5
1996	127.2	81.2	29.4	18.8
1997	134.9	78.5	37.0	21.5
1998	143.6	74.2	50.0	25.8
1999	173.0	67.9	81.8	32.1
2000	190.3	69.0	85.4	31.0

Source: NCVER (2000g)

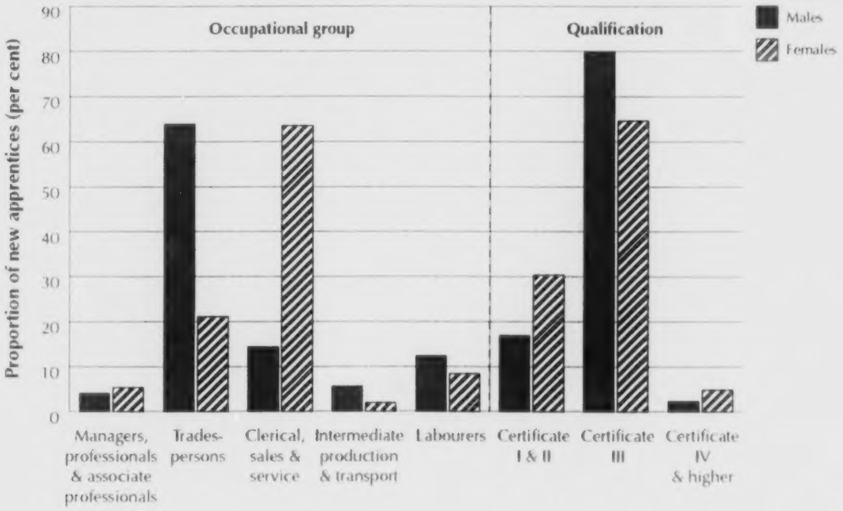
The number of female apprentices and trainees has increased almost fourfold between 1995 and 2000. There were over 85 000 females in new apprenticeships by June 2000. This increase lifted the proportion of apprentices and trainees who are female from only 16.5% in 1995 to 31.0% in 2000.

The progress in improving female participation has been significant, particularly in the period 1997 to 1999. However, gender equity is still some way from being achieved in new apprenticeships despite the major improvements accomplished in the past few years. This is in contrast to the situation in the rest of the vocational education and training sector and in the higher education sector.

There are also some significant differences in the types of new apprenticeships being undertaken by males and females.

For instance, nearly two-thirds of females in new apprenticeships are clerical sales and service workers, whereas almost two-thirds of male new apprentices are tradespersons, as shown in figure 10. Females share a slightly higher representation than males in new apprenticeships in the managerial and administrative, professional and associate professional occupations. Males have higher proportions than female new apprentices in the intermediate production and transport and labourer occupations. These patterns largely mirror the occupational segregation by gender found in the Australian labour market.

Figure 10: Differences in the types of new apprenticeships undertaken by males and females, June 2000



Source: NCVER (2000g)

Although there are slightly more females than males in new apprenticeships at certificate IV or higher qualification levels, they are substantially over-represented in new apprenticeships at the certificate I and II level. Moreover, there are proportionately fewer females in new apprenticeships at the certificate III level, the proportions being 80% for males and 65% for females (figure 10).

Turning to the age of new apprentices, some differences in the occupations of new apprentices are evident across different age groups (table 34).

New apprentices who are teenagers or are aged 20–24 years have similar occupational profiles. Some two-thirds are undertaking new apprenticeships in the skilled trades occupations and around a quarter are in clerical, sales or service worker new apprenticeships. Some 5% of new apprentices under 25 years of age are in new apprenticeships in labourer and related occupations (table 34).

A different occupational profile is evident for new apprentices who are older (table 34). Some 40% are in clerical, sales and service new apprenticeships, a much higher proportion than for young people. Older people are also more likely to be in new apprenticeships in labourer and related occupations and they are much less likely to be in new apprenticeships in the skilled trades.

Table 34: New apprentices by age, occupation and level of qualification, June 2000

Occupational group	Proportion of new apprentices (%) in each age cohort			
	15–19 years*	20–24 years	25–39 years	40 years or more
Managerial & administration	1.3	0.8	0.9	0.9
Professionals	2.7	2.7	5.1	4.6
Tradespersons	64.5	66.4	25.9	7.7
Clerical, sales & service	25.4	23.3	39.9	41.5
Intermediate production & transport	1.3	2.0	9.0	12.1
Labourers	4.8	4.8	19.3	33.3
Total	**100.0**	**100.0**	**100.0**	**100.0**
Level of qualification				
Certificate I & II	25.9	16.3	21.8	15.4
Certificate III	72.8	80.0	71.0	77.6
Certificate IV & higher	1.1	2.2	6.0	6.5
Not known	0.2	1.5	1.2	0.5
Total	**100.0**	**100.0**	**100.0**	**100.0**

Note: * Includes a small number of persons aged less than 15 years.
Source: NCVER (2000g)

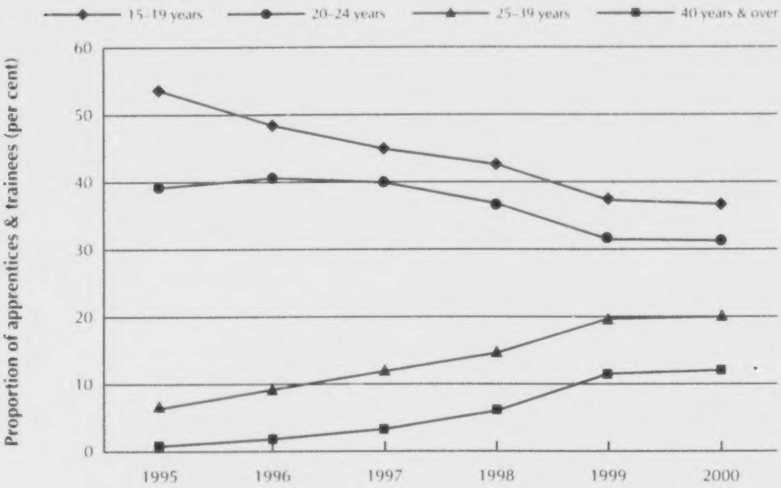
There are few differences across the various age groups in relation to the level of qualifications being sought by new apprentices. As shown in table 34, approximately three-quarters of new apprentices were engaged at the certificate III level in 2000, irrespective of age. Older new apprentices were more likely than younger apprentices to be in a new apprenticeship at the certificate IV level, which is a pattern to be expected. No clear relationship between age and certificate I and II new apprenticeships emerges.

The impact of removing the age restrictions for entry to apprenticeships and traineeships in 1992 is depicted in figure 11. The proportion of teenagers in the system has fallen from over half in 1995 to only a little over a third. The proportion of apprentices and trainees who are aged 20 to 24 years has also fallen from about 40% in 1995 to just under a third today.

By contrast, the proportion of apprentices aged 25 to 39 years has risen markedly from just over 6% in 1995 to 20% in 2000. Similarly, the proportion aged 40 years and over has risen from less than 1% in 1995 to 12% in 2000.

This declining share of young people in total apprentice and trainee numbers has led many observers to mistakenly conclude that opportunities for young people in apprenticeships, traineeships and new apprenticeships have been declining in recent years.

Figure 11: The proportion of apprentices and trainees and new apprentices in each age group, June 1995–2000



Source: NCVER (2000g)

The proportion of all 15 to 19-year-olds who are participating in apprenticeships, traineeships and new apprenticeships has risen from 5.7% in 1995 to 7.5% in 2000. Similarly, the participation rates of 20 to 24-year-olds in apprenticeships, traineeships and new apprenticeships has risen from 3.7% in 1995 to 6.3%. Apprenticeship opportunities for young people are increasing not declining (table 35).

The proportion of all people aged 25 to 39 years in apprenticeships, traineeships or new apprenticeships has risen from just 0.2% in 1995 to 1.3% in 2000. Despite the strong growth from a low base in the number of older apprentices, trainees and new apprentices, participation by 40 to 64-year-olds was only 0.6% of the 40 to 64-year-old population in 2000 (table 35).[14]

The past decade has seen a major transformation of apprenticeships and traineeships in Australia from a system mainly focussed on school leavers (especially males) to a system that is increasingly open to females and to people of all age groups. Rather than leading to a decline in training opportunities for young people, this transformation has been achieved with larger numbers of young people participating in the system than at any time previously in Australia. This is because the overall growth has been so strong in recent years.

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[14] The situation of young people in the apprenticeship and traineeship system (and in VET generally) is explored in Ball and Robinson (1998) and Ball (1999). The issue of the rapid rise in the participation of older people in VET more generally is considered in detail in Smith (1999).

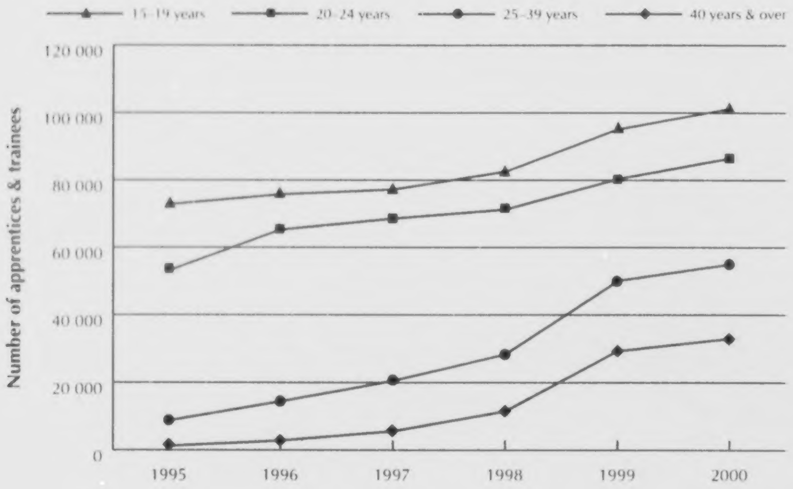
In fact, apprenticeship, traineeship and new apprenticeship opportunities for people of all ages have been growing strongly as shown in figure 12.

Table 35: Participation rates in apprenticeships and traineeships and new apprenticeships by gender and age, June 1995–2000

	1995	1996	1997	1998	1999	2000
Male participation rates						
15–19 years*	9.2	9.3	9.1	9.3	10.2	10.6
20–24	6.3	7.5	8.1	8.2	8.6	9.3
25–39	0.3	0.5	0.7	0.9	1.4	1.6
40 & over	0.0	0.1	0.1	0.2	0.5	0.6
Female participation rates						
15–19 years*	2.1	2.4	2.7	3.1	3.9	4.3
20–24	1.1	1.5	1.8	2.2	3.1	3.2
25–39	0.1	0.1	0.2	0.4	0.9	0.9
40 & over	0.0	0.0	0.1	0.2	0.6	0.5
Persons participation rates						
15–19 years*	5.7	5.9	6.0	6.3	7.1	7.5
20–24	3.7	4.5	5.0	5.3	5.9	6.3
25–39	0.2	0.3	0.5	0.6	1.1	1.3
40 & over	0.0	0.1	0.1	0.2	0.5	0.6

Note: * Includes a small number of persons aged less than 15 years.
Source: NCVER (2000g)

Figure 12: Growth in the number of apprentices and trainees and new apprentices in each age group, June 1995–2000



Source: NCVER (2000g)

The absolute number of teenage apprentices and trainees and new apprentices rose from 72 800 in 1995 to some 101 200 in 2000. The number in training aged 20 to 24 years rose from 53 200 to 86 400 between 1995 to 2000. Apprentice, trainee and new apprentice numbers for those aged 25 to 39 years rose from 8700 in 1995 to some 55 100 in 2000. Even faster growth occurred for those aged 40 years and over from only 1200 in 1995 to 33 000 in 2000.

Apprenticeship, traineeship and new apprenticeship numbers have been growing strongly for all age groups. However, as shown in figure 12, the rates of growth have been faster for the older age groups (albeit from much smaller base numbers in the mid-1990s).

These trends have seen an increase, not a decrease, in the numbers of all young people who are participating in apprenticeships, traineeships and new apprenticeships, as shown by the age-related participation rates in table 35.

6.2 The educational background of apprentices, trainees and new apprentices

One of the factors that has been identified as being related to the trend of proportionately fewer apprentices in the 15 to 19-year-age group over the past decade is that more young people are staying on longer at school or are undertaking some other tertiary study these days prior to entry to apprenticeships.

The NCVER (1994) reported that in 1993 over 75% of first-year apprentices entered their apprenticeships directly after leaving school.

Today most new apprentices enter their training directly from secondary school (table 36). This has always been the case, but the proportion of apprentices and trainees with schooling as their highest level of previous educational attainment has fallen modestly from 93% in 1995 to 87% in 2000.

Some 35% of new apprentices had Year 12 as their highest previous educational attainment in 2000 (this proportion having fallen from just under 42% in 1995). Almost 45% have Year 10 or Year 11 as their highest previous education level (this proportion having fallen only modestly from 48% in 1995). Only a small proportion (7%) enter new apprenticeships having done only Year 9 or lower (table 36). This proportion has been rising as a result of increasing numbers of older people with poorer education backgrounds now entering new apprenticeships.

The proportion of apprenticeships and traineeships and new apprenticeships taken up by people who have a previous tertiary vocational or academic qualification has increased quite significantly from less than 3% in 1995 to over 10% today (table 36). Most of these held a trade or other certificate-level qualification. This increase corresponds with the slight falls in the proportions having only done Year 12 or Years 10 and 11. Today more people finish school and do some other tertiary study before entering a new apprenticeship.

Nevertheless, the overwhelming majority of new apprentices still have schooling as their highest level of previous education, rather than any tertiary-level education.

Table 36: The educational background of apprentices and trainees and new apprentices, June 1995–2000

Highest level of previous educational attainment	**Proportion of apprentices and trainees and new apprentices at 30 June (%)**					
	1995	1996	1997	1998	1999	2000
Degree/postgraduate diploma	0.1	0.3	0.4	0.5	0.7	1.0
Associate diploma/ undergraduate diploma	0.1	0.2	0.2	0.3	0.6	0.7
Trade/technical certificate	1.1	1.0	1.1	1.3	2.0	2.4
Other certificate	0.9	1.6	2.4	3.8	4.9	5.3
Other unspecified post-secondary	0.6	0.5	0.5	0.5	1.3	1.3
Sub-total tertiary	*2.8*	*3.6*	*4.6*	*6.4*	*9.5*	*10.7*
Year 12	41.8	40.7	40.0	38.0	36.7	35.4
Year 10 or 11	48.4	46.5	46.1	46.0	44.7	44.5
Year 9 or lower	2.9	3.9	4.6	5.2	6.2	7.1
Sub-total schooling only	*93.1*	*91.1*	*90.7*	*89.2*	*87.6*	*87.0*
Not stated	4.0	5.3	4.6	4.3	3.0	2.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: NCVER (2000g)

6.3 The geographic location of apprentices, trainees and new apprentices

The distribution of new apprentices across Australia's States and Territories is shown in table 37. The distribution of new apprentices is not evenly spread across States and Territories according to each State and Territory's share of Australia's working-age population (that is, 15 to 64 years of age). New South Wales, the largest State, has proportionately fewer new apprentices than its population share suggests it ought to have. Western Australia and the Northern Territory are in a similar position.

However, very rapid changes occurred in some States in the 1996–98 period which were delayed in New South Wales because of government policy. Over the years 1999–2000, the reverse situation obtained, with numbers in New South Wales growing quickly, while there was a corresponding drop in the share of intakes in most other States.

Victoria, South Australia, Tasmania and the Australian Capital Territory have higher proportions of new apprentices than their population shares. Only Queensland has new apprenticeship numbers broadly in line with their population share (table 37).

Table 37: New apprentices in each State and Territory, 2000

State/Territory	New apprentices		
	No. in training at 30 June ('000)	Proportion of total (%)	Share of working-age population* (%)
New South Wales	77.4	28.1	33.5
Victoria	80.0	29.0	24.9
Queensland	51.3	18.6	18.7
Western Australia	20.2	7.3	10.0
South Australia	28.4	10.3	7.7
Tasmania	10.8	3.9	2.4
Australian Capital Territory	5.0	1.8	1.1
Northern Territory	2.5	0.9	1.7
Australia	275.6	100.0	100.0

Note: * Population aged 15–64 years.
Sources: NCVER (2000g); data supplied by the Australian Bureau of Statistics

The change in each State or Territory's share of apprenticeships and traineeships since 1995 is given in figure 13 (page 94). The New South Wales share of Australia's total contracts of training numbers fell from 33% in 1995 to only 28% in 2000. In contrast, Victoria's share has risen from less than 24% in 1995 to 29% in 2000. South Australia and Tasmania were the other States to increase their share of apprentice and trainee numbers. Western Australia's share fell from over 10% in 1995 to just over 7% in 2000. Queensland, the Australian Capital Territory and the Northern Territory enjoy similar shares today as they did in the mid-1990s.

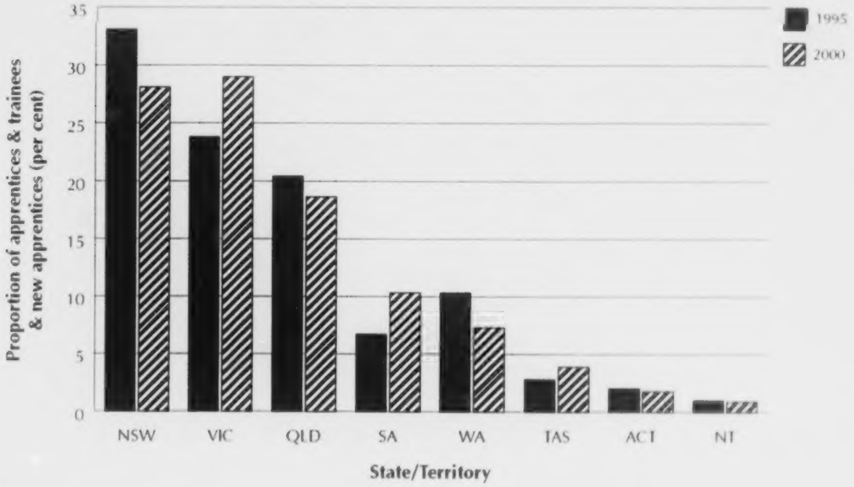
It is important to note, however, that in the past year commencements are growing fastest in New South Wales, Victoria and the Northern Territory.

Rural and remote Australia is being well served by the new apprenticeships system. As shown in table 38 (page 94), people living in rural areas (generally with 5000 or more people) or remote areas (generally of less than 5000 people) have proportionately more new apprentices (that is, 31.7%) than their share of the working-age population (27%).

Capital cities are slightly less well covered by new apprenticeships. Two-thirds of the Australian working-age population live in capital cities, yet only 60% of new apprentices are located in capital cities (table 38).

In other metropolitan areas (of at least 100 000 people but that are not capital cities) some 7.5% of Australia's working-age population is found, compared with 7.8% of new apprentices living in these areas.

Figure 13: The proportion of apprentices and trainees and new apprentices in each State and Territory, June 1995 and 2000



Source: NCVER (2000g)

Table 38: New apprentices in each geographic region of Australia, 2000

Geographic region	New apprentices No. in training at 30 June ('000)	Proportion of total (%)	Share of working-age population* (%)
Capital city	163.7	59.4	65.5
Other metropolitan	21.5	7.8	7.5
Rural	79.4	28.8	24.2
Remote	7.9	2.9	2.8
Interstate	2.5	0.9	0.0
Region not stated	0.5	0.2	0.0
Total	**275.6**	**100.0**	**100.0**

Note: * Population aged 15–64 years in June 1999.
Sources: NCVER (2000g); data supplied by the Australian Bureau of Statistics

There has been very little change in the proportions of apprentices and trainees living in cities or rural and regional areas over the 1990s (as shown in appendix 1, table 111).

New research by Dumbrell (Dumbrell et al. 2001) shows that there are, however, substantial geographic variations across Australia in relation to access to apprenticeships, traineeships and new apprenticeships. However, these variations do not occur along strict urban and rural divisions; rather, the significant variations occur within different areas of the same city in the case of large cities, or within particular regional areas. Local employment factors and socio-economic variations within geographic areas are crucial, whereas the rural–urban divide is not.

Moreover, new research by Demediuk et al. (2001) explores in detail the barriers faced by people in Melbourne's western suburbs in accessing apprenticeships and traineeships.

6.4 The growth in Indigenous apprentices, trainees and new apprentices

There has been a fivefold increase in the number of Indigenous apprentices and trainees since the mid-1990s. As shown in table 39 (page 96), the number has grown from only 1100 in 1995 to some 5100 in 2000.

The proportion of Indigenous apprentices and trainees or new apprentices in the total rose strongly from 0.8% in 1995 to reach a peak of 2.4% in 1998. The proportion who are Indigenous has since fallen to some 1.9% (table 39).

Despite the modest fall in the proportion of Indigenous new apprentices since the introduction of new apprenticeships in 1998, the actual number of Indigenous new apprentices has continued to grow from 4700 in 1998 to 5100 in 2000 (table 39). This represents growth of over 8.5% in the two years.

This is significant in that Indigenous access to the new apprenticeships system has reached equity with other Australians in terms of aggregate participation. Some 1.9% of all new apprentices in Australia were Indigenous people in 2000, and Indigenous people made up 1.9% of Australia's working-age population in 2000.

Equitable Indigenous access to apprenticeships and traineeships was achieved in 1996 and this situation has continued in Australia to the present. Thus, along with Indigenous participation in the vocational education and training sector overall, Indigenous participation in new apprenticeships is one of the very few areas where overall Indigenous participation has reached equitable levels with other Australians. For instance, Indigenous peoples still do not enjoy equitable access to higher education or senior secondary schooling in Australia.

These aggregate trends, however, mask some of the inequities that continue to persist between Indigenous and non-Indigenous people in the apprenticeship system.

Table 39: Growth in the number of Indigenous apprentices and trainees and new apprentices, June 1995–2000

Year	Indigenous		Non-Indigenous*	
	No. in training ('000)	Proportion of total (%)	No. in training ('000)	Proportion of total (%)
1995	1.1	0.8	134.9	99.2
1996	2.9	1.8	153.7	98.2
1997	3.8	2.2	168.1	97.8
1998	4.7	2.4	188.9	97.6
1999	4.5	1.8	250.2	98.2
2000	5.1	1.9	270.5	98.1

Note: * Includes those whose Aboriginality was not stated.
Source: NCVER (2000g)

For instance, Indigenous people are under-represented in new apprenticeships in the skilled trades, and they are considerably over-represented in new apprenticeships in the labouring occupations and in the clerical, sales and service occupations when compared with other Australians, as shown in figure 14. This means that Indigenous people do not have the same opportunities to access new apprenticeships as skilled tradespersons or in emerging skilled technician occupations as other Australians.

A more promising trend is that Indigenous people are almost twice as likely as other Australians to be in a new apprenticeship as a managerial and administrative, professional or associate professional occupation (figure 14).

Indigenous people are not adequately represented in higher-level qualifications in new apprenticeships, even though the situation has improved significantly since 1995.[15] Indigenous people are more than twice as likely as other Australians to be in a new apprenticeship at the certificate I or II level (noting almost all of these are certificate IIs). On the other hand, Indigenous people are much less likely than other Australians to be in a new apprenticeship at certificate III, certificate IV or diploma/advanced diploma levels. For instance, just over three-quarters of non-Indigenous new apprenticeships were at the certificate III level in 2000, compared with just over half for Indigenous new apprentices (figure 14).

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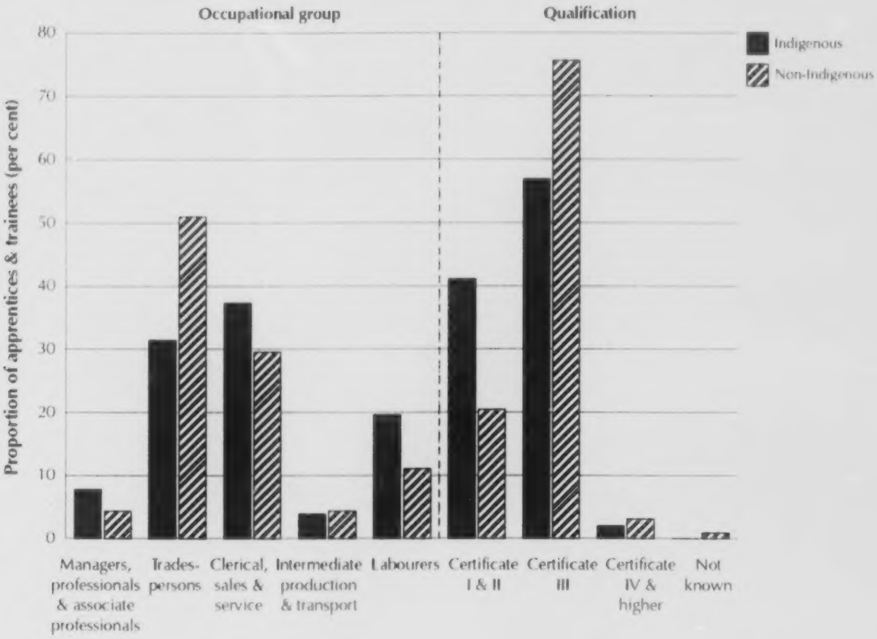
[15] The nature of Indigenous participation in apprenticeships and traineeships is discussed more fully in Robinson and Hughes (1999, pp.24–9).

Figure 14: Indigenous and non-Indigenous apprentices and trainees and new apprentices by occupation and level of qualifications, June 2000



Source: NCVER (2000g)

6.5 People of non-English-speaking backgrounds in apprenticeships, traineeships and new apprenticeships

Some 7% of all new apprentices in 2000 reported that they were of non-English-speaking background, with the main language spoken at home not being English.

The numbers of apprentices and trainees or new apprentices of non-English-speaking background have risen more than threefold since the mid-1990s, from some 5600 in 1995 to 19 000 in 2000. The proportion of all apprentices and trainees or new apprentices who are of non-English-speaking backgrounds has risen from 4% in 1995 to 7% in 2000 (table 40).

Yet despite the considerable improvements made in participation by people of non-English-speaking backgrounds in recent years, they still face considerable inequality of access to the new apprenticeships system compared with other Australians. In the 1996 census of population and housing, some 13.9% of residents reported they were of non-English-speaking background. This proportion is slightly higher if we consider the working-age population, where some 14.6% of residents in Australia are from non-English-speaking backgrounds.

Table 40: Growth in the numbers of apprentices and trainees and new apprentices from a non-English-speaking background, June 1995–2000

Year	Non-English-speaking background		English-speaking background*	
	No. in training ('000)	Proportion of total (%)	No. in training ('000)	Proportion of total (%)
1995	5.6	4.1	130.3	95.6
1996	6.8	4.3	149.7	95.7
1997	8.0	4.6	163.9	95.4
1998	9.1	4.7	184.5	95.3
1999	16.3	6.4	238.5	93.6
2000	19.0	6.9	256.6	93.6

Note: * Includes those who did not state their language(s) spoken.
Source: NCVER (2000g)

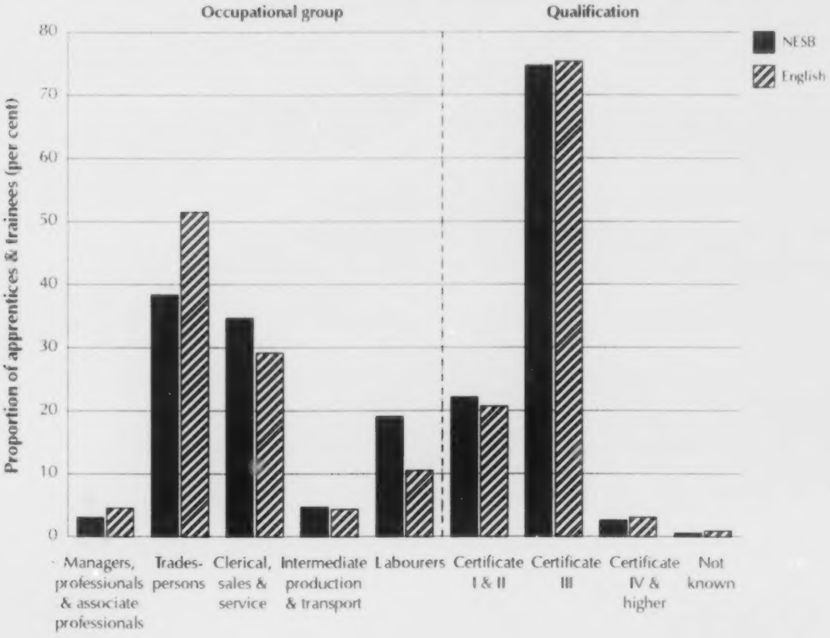
Thus the number of new apprentices of non-English-speaking background would need to double for equity to be reached with Australians of English-speaking backgrounds. It is important to note, however, that in 2000, some 23 000 or 8% of new apprentices did not report their language background.

Some of this group will be of non-English-speaking background, so the differences in participation in new apprenticeships between peoples of non-English-speaking and English-speaking backgrounds are not as great as the statistics suggest.

In relation to the occupations of new apprentices, compared with other Australians, persons of non-English-speaking backgrounds are under-represented in the skilled trades and over-represented in the labourer occupations (figure 15). Persons of non-English-speaking backgrounds are also slightly under-represented in new apprenticeships in the managerial and administrative, professional and para-professional occupations. Moreover, they are slightly over-represented in the clerical, sales and service occupations and in the intermediate production and transport occupations. However, the extent of these differences is not as marked as with occupational differences in new apprenticeships between Indigenous and other Australians.

The qualification profiles of new apprentices of non-English-speaking backgrounds and all other new apprentices are almost identical, as shown in figure 15. Three-quarters of new apprentices, irrespective of ethnic background, are in new apprenticeships at certificate III level.[16]

Figure 15: Apprentices and trainees and new apprentices of English and non-English-speaking backgrounds by occupation and level of qualifications, June 2000



Source: NCVER (2000g)

6.6 The improving situation of people with a disability in apprenticeships, traineeships and new apprenticeships

The number of people in apprenticeships and traineeships or new apprenticeships reporting a disability has increased fivefold in the past five years from only 1000 in 1995 to 5600 in 2000. This represents an increase from 0.8% of apprenticeships and traineeships in 1995 to 2.0% of new apprenticeships in 2000, as shown in table 41.

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[16] Issues concerning the impact that English language difficulties have on apprentices and trainees is examined in detail in new research by O'Neill and Gish (2001).

Yet the access for people with a disability to new apprenticeships is still not equitable in Australia. In the Australian Bureau of Statistics 1998 disability survey, some 16.4% of all Australians of working age reported having a disability of some kind. Some 14.1% reported a disability involving restrictions in core activities, such as communication difficulties, mobility difficulties and difficulties requiring self-care and/or restrictions impeding the ability to undertake education and/or employment. Some 2.3% reported no such specific restrictions with their disability or disabilities, but reported that they had a disability where they need assistance with health care, paperwork, transport, housework, property maintenance and/or meal preparation.

Table 41: Growth in the numbers of apprentices and trainees and new apprentices with a disability, June 1995–2000

Year	With a disability		No disability*	
	No. in training ('000)	Proportion of total (%)	No. in training ('000)	Proportion of total (%)
1995	1.0	0.8	134.9	99.2
1996	1.6	1.0	154.9	99.0
1997	2.4	1.4	169.5	98.6
1998	3.5	1.8	190.0	98.2
1999	5.0	2.0	249.7	98.0
2000	5.6	2.0	270.0	98.0

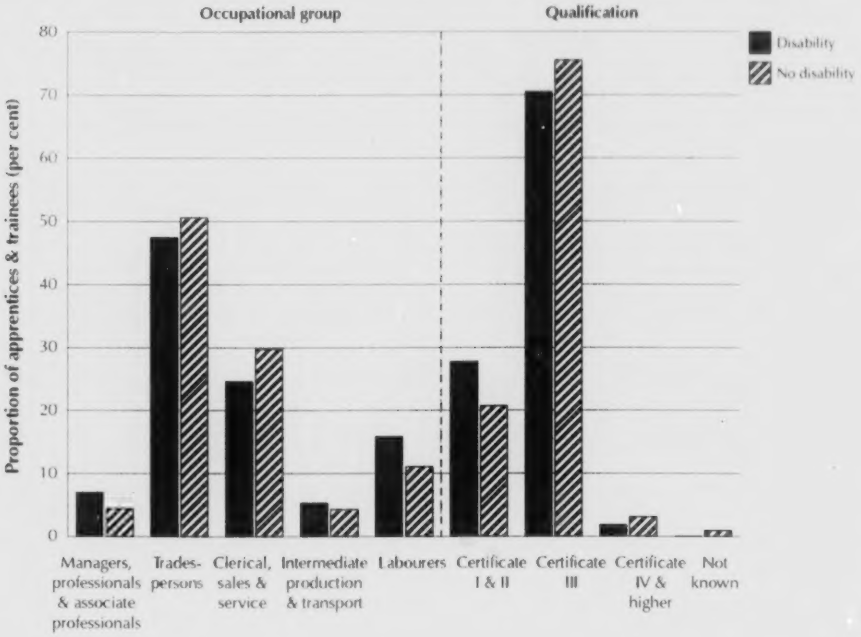
Note: * Includes any with an undisclosed disability.
Source: NCVER (2000g)

Improvements in the access by people with disabilities to apprenticeships, traineeships and new apprenticeships in recent years means that by 2000 the new apprenticeships system was reaching equity in its coverage of the Australian working-age population with a disability but with no specific restrictions. Some 2.0% of all new apprentices reported having a disability in 2000, and some 2.3% of the Australian working-age population have a disability that does not entail any specific restrictions.

However, coverage of people with more severe disabilities involving restrictions in core activities and/or impediments to undertaking education or employment in the new apprenticeship system remains poor.

In relation to those people with disabilities gaining access to new apprenticeships, the profiles of their occupations and the qualification levels are remarkably similar to occupations and qualifications of new apprenticeships undertaken by people who have no disability or who have not reported any disability.[17] This is shown in figure 16.[18]

Figure 16: Apprentices and trainees and new apprentices with a disability and without a disability by occupation and level of qualifications, June 2000



Source: NCVER (2000g)

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[17] This issue is explored more fully in the New South Wales context in Department of Education and Training (1998).

[18] More statistical information about the characteristics of apprentices, trainees and new apprentices is given in appendix 1, tables 100–20.

7 Completions and attrition in apprenticeships, traineeships and new apprenticeships

So far in this report we have focussed on the numbers participating in apprenticeships, traineeships or new apprenticeships. However, a critical issue is the extent to which apprentices, trainees and new apprentices have been successful in completing their contract of training.

The issue of non-completion and attrition from apprenticeships, traineeships and new apprenticeships has been of increasing concern in recent times. There has been a perception that non-completion attrition rates are unacceptably high.

Before examining levels of attrition and/or completion, it is important to understand what a 'completion' entails. Completing an apprenticeship, traineeship or new apprenticeship has a number of dimensions which complicates both the measurement issue and, more importantly, the awarding of qualifications and testaments to apprentices, trainees or new apprentices.

A successful completion requires three different steps to be taken. These steps are:

- completion of the *formal off-the-job requirements* of the new apprenticeship (that is, obtaining the qualification of the new apprenticeship)
- completion of the *indenture period* of the new apprenticeship (that is, remaining in the new apprenticeship for the full indenture period of the contract of training and meeting the on-the-job requirements as endorsed by the employer)
- once both of these requirements have been met, notification to the *State/Territory training authority* of the successful completion of the contract of training by the new apprentice, together with provision of required evidence of the successful completion of the new apprenticeship

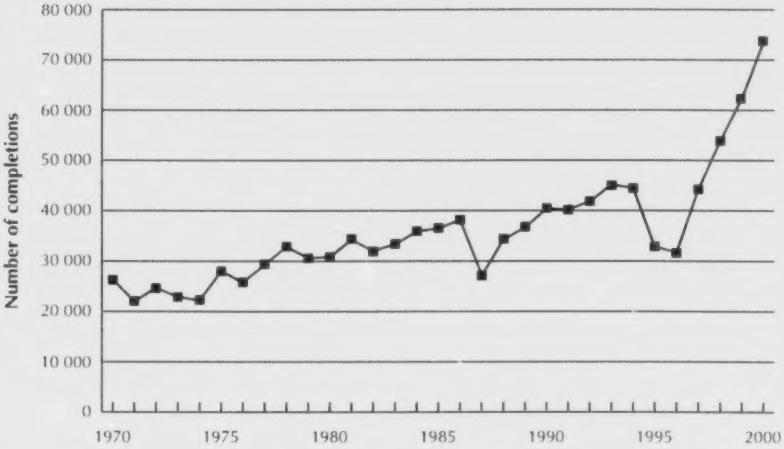
Clearly the administrative requirements are substantial, and some new apprentice indenture periods reach their 'expiry date' without a withdrawal or cancellation or a completion having been reported and recorded.

Further, as described in this chapter, the true level of completion is yet to be established because of the complexities in reporting described above and concomitant problems in data collection. The NCVER is working with States and Territories to improve the under-enumeration of completions confounding more accurate measurement. Nevertheless, in the short term it is possible to examine historical and emerging trends based on existing national data.

7.1 The overall growth in apprenticeship and traineeship and new apprenticeship completions

The aggregate number of apprenticeship and traineeship and new apprenticeship completions since 1970 are shown in figure 17. The long-term trend has been one of growth in completions, but as can been seen from figure 17 there have been considerable fluctuations in completion numbers over the past 30 years. Completion numbers have varied from year to year largely in line with lagged effects from the cyclical fluctuation seen in overall apprenticeships and traineeships and new apprenticeships described earlier in this report in chapter 3.

Figure 17: The number of apprenticeship and traineeship and new apprenticeship completions,* 1970–2000



Note: * The number of completions over the 12 months ending 30 June.
Sources: DEIR (1986); DEYA (1980); NCVER (2000g)

Completions of apprenticeships fluctuated in the first half of the 1970s, but followed a downward trend from 1970 to 1974, dropping from 26 400 in 1970 to just 22 200 in 1974. Apprenticeship completions then increased for several years to reach a peak of over 34 000 in 1981. In the 1982 to 1986 period, apprenticeship completion numbers grew modestly from 32 000 to over 38 000. Completion numbers from contracts of training then fell to only 27 000 in 1987 despite the first completions from the new Australian Traineeship System being realised in that year (figure 17).

Apprenticeship and traineeship completions recovered in 1988 to reach 34 300 and grew strongly until 1993, reaching a then record number of over 45 000. In 1995, completion numbers fell sharply to some 32 900. Completions have since grown enormously to reach 73 700 in 2000. As can be seen from figure 17, new apprenticeship completion levels since 1998 have reached an historic high.

Looking at the past six years in more detail, overall numbers of apprentices and trainees and new apprentices successfully completing their contracts of training have grown very strongly since the mid-1990s. Contrary to popular belief, absolute numbers of completions have more than doubled since 1995 as shown in table 42, from 32 900 in 1995 to reach 73 700 by the end of 1999.

Table 42: The number of apprenticeship and traineeship and new apprenticeship completions, 1995–2000

Year	No. of completions* ('000)
1995	32.9
1996	31.7
1997	44.3
1998	53.9
1999	62.4
2000	73.7

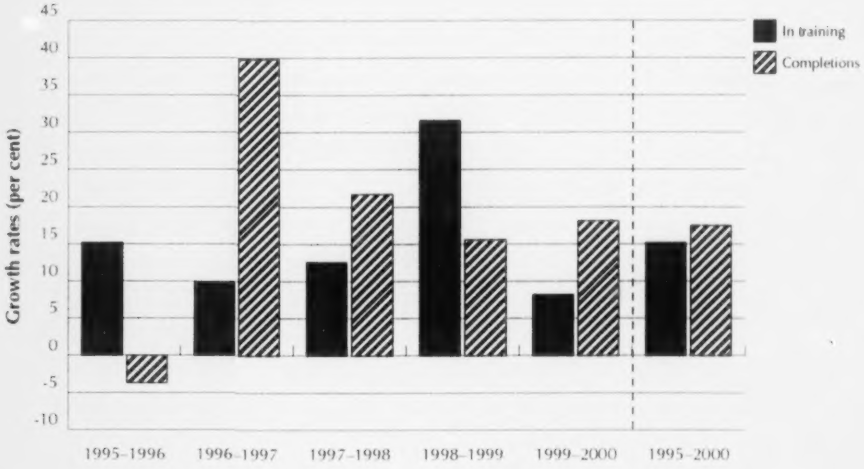
Note: * The number of completions over the 12 months ending 30 June.
Source: NCVER (2000g)

As shown in figure 18, completions have grown at an annual rate of 17.5% since 1995. There was, however, considerable variation in completions growth rates between years during the period since 1995, with a small negative annual growth rate being experienced for the period 1995–96.

By comparison, the overall numbers of apprentices and trainees in training have also more than doubled over the 1995 to 2000 period, rising from 135 390 in 1995 to almost 275 600 by 2000. This represents a slightly lower annual growth rate of 15.2% when compared to completions during the 1995 to 2000 period.

What is surprising about these trends is that completions' growth rates were higher, on average, during the 1995 to 2000 period, than were the growth rates for overall apprentice and trainee numbers. It has generally been believed that completions' growth rates had not been sufficient to keep pace with the growth rates in the numbers of apprentices and trainees in the system in recent years.

Figure 18: Growth rates in apprenticeship and traineeship and new apprenticeship numbers in training and completions,* 1995–2000



Note: * The number of completions over the 12 months ending 30 June.
Source: NCVER (2000g)

In aggregate terms then, while there are considerable variations from one year to the next, the view that the substantial expansion of apprentices and trainees that we have seen since the mid-1990s has been accompanied by a decline in completions is not sustained by the evidence. The other important point to note is that there is some evidence from studies of expired contracts of training that the number of apprentices and trainee completions is being under-reported, leading to an understatement of the total number of completions being achieved.

Given the concerns about a perceived drop in completions and the view that this reflects an overall deterioration in quality, together with the complexities involved in the collection of data relating to apprentices and trainees, the National Training Statistics Committee asked the National Centre for Vocational Education Research to undertake further work to establish the 'true' level of completions in Australia. In June and July of 2000 a detailed investigation of expired apprentice and trainee and new apprentice contracts was undertaken with the assistance and support of all States and Territories. A sample of these contracts was tracked in each jurisdiction through records held by the State training authority, and contact made with employers, apprentices and trainees and registered training authorities to establish the actual status of each contract.

The analysis showed that, nationally, the number of completions was underestimated by as much as 20%. In other words, a conservative estimate of the number of completions could have been in the order of 85 000 instead of the 73 700 actually measured for the year ending June 2000. This estimate is a weighted estimate allowing for a stratified sample at the State and Territory level.

This estimate varies from State to State. Further work is now being done to establish new procedures to more accurately measure the true level of completions.

7.2 The qualifications levels of completing apprentices, trainees and new apprentices

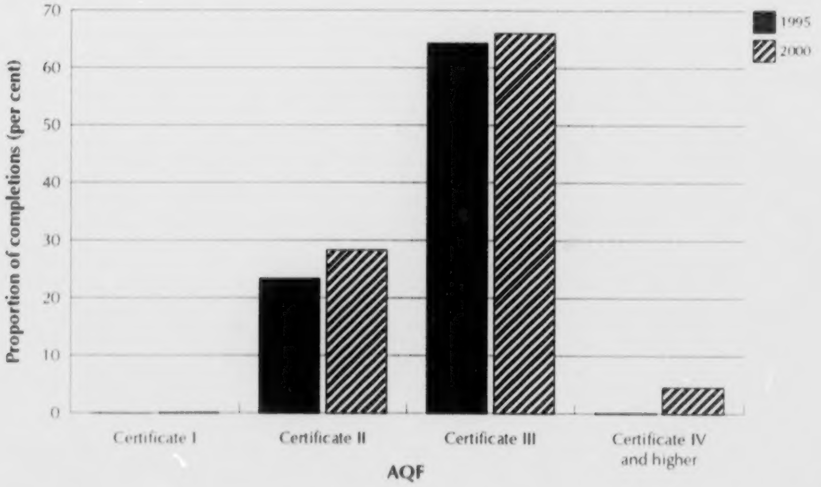
We noted the dominance of AQF certificate level III in those undertaking apprenticeships, traineeships and new apprenticeships. A similar situation occurs with almost two-thirds of all of those completing new apprenticeships in 2000 gaining a certificate III level qualification (as shown in table 43).

Table 43: The qualifications attained by persons completing new apprenticeships, 2000

Qualification	No. of completions* ('000)	Proportion of completions (%)
Certificate I	0.1	0.1
Certificate II	20.8	28.2
Certificate III	48.6	66.0
Certificate IV & higher	3.3	4.5
Not stated	0.9	1.2
Total	**73.7**	**100.0**

Note: * The number of completions over the 12 months ending June 2000.
Source: NCVER (2000g)

Figure 19: Proportions of completions* by qualification level, 1995 and 2000



Note: * The number of completions over the 12 months ending 30 June.
Source: NCVER (2000g)

In 2000 nearly 49 000 people gained a certificate III through the completion of new apprenticeships. Most of the remainder gained a certificate II. A small but growing number of new apprenticeship completions were at certificate IV, diploma or advanced diploma levels.

The change in the relative importance of different qualification levels since the mid-1990s is depicted in figure 19. While the proportion of certificate III completions has decreased slightly since 1995, the proportion of certificate II completions has increased from just over 23% of the known total in 1995 to just over 28% in 2000.

7.3 Changes in the occupational mix of apprenticeship, traineeship and new apprenticeship completions

All major occupational groups, apart from the advanced clerical and service workers category, experienced growth in completions over the period 1995 to 2000, as shown in table 44 (page 108). However, as was the case with overall numbers of apprentices and trainees, the proportional composition of completions by occupation group changed considerably.

- Although the number of completions in the tradespersons and related workers occupational category grew from 23 400 in 1995 to 25 700 in 2000, the proportion of total completions in this occupational category declined from 71.2% to 34.9%.
- The proportion of completions in the clerical, sales and service workers occupational categories increased significantly, from 17.0% to 31.7% in the intermediate clerical, sales and service workers occupational category, and from 6.3% to 16.0% in the elementary clerical, sales and service workers occupational category.
- The proportion in the labourers and related workers occupational category increased from 2.6% in 1995 to 8.3% in 2000.

The advanced clerical and service workers occupational category experienced a decline over the period 1995 to 2000 (table 44). Tradespersons and related workers had the lowest annual growth rate of 1.9% over the period 1995 to 2000. All other major occupational groups experienced annual growth rates of over 20% (table 44).

The annual growth rate for occupational groups (table 44) shows increased completions in non-traditional apprenticeships, commensurate with growth in commencements in these newer occupations.

Table 44: Number of completions by major occupation group, 1995–2000

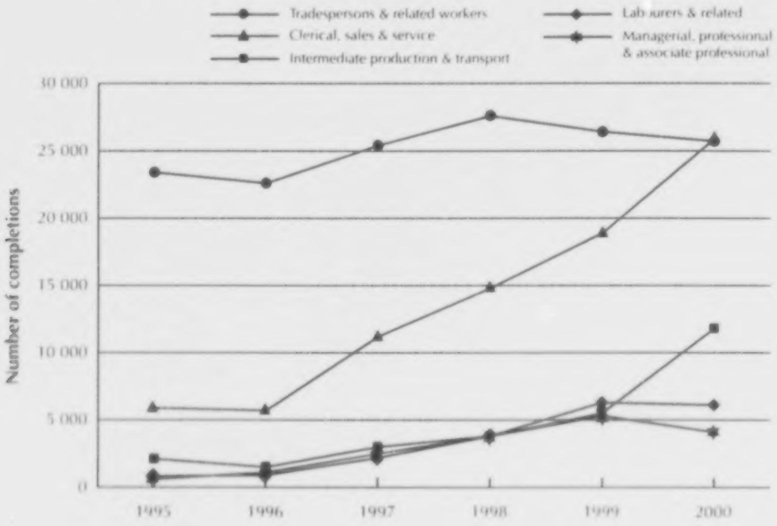
Occupation group	**1995**		**2000**		**Annual growth rate 1995 to 2000[b]**
	No. of completions[a] ('000)	Proportion of total (%)	No. of completions[a] ('000)	Proportion of total (%)	
Managers & administrators	0.3	1.0	0.8	1.1	18.5
Professionals	0.0	0.0	0.6	0.8	107.0
Associate professionals	0.3	0.9	2.7	3.7	54.3
Tradespersons & related workers	23.4	71.2	25.7	34.9	1.9
Advanced clerical & service workers	0.1	0.3	0.0	0.0	-23.3
Intermediate clerical, sales & service workers	5.6	17.0	23.4	31.7	33.1
Intermediate production & transport workers	0.2	0.7	2.5	3.4	62.2
Elementary clerical, sales & service workers	2.1	6.3	11.8	16.0	41.8
Labourers & related workers	0.8	2.6	6.1	8.3	48.9
Total completions	**32.9**	**100.0**	**73.7**	**100.0**	**17.5**

Notes: (a) The number of completions over the 12 months ending 30 June.
(b) Annual rates of growth for the period 1995 to 2000 are compound growth rates.
Source: NCVER (2000g)

The growth in the actual numbers of completions in each major occupational group since 1995 is illustrated in figure 20. As mentioned above, the number of completions from trades apprenticeships grew only modestly from 1995. However, with 25 700 completions in 2000, completions in the skilled trades remain higher than for any other group of new apprentice completions. Next are the intermediate clerical, sales and service occupations with 23 400 completions in 2000, having grown rapidly from fewer than 5600 completions in 1995. Completions in the other occupational categories have grown considerably from very small bases in the mid-1990s.

Completions in the skilled trades apprenticeships and traineeships and new apprenticeships are shown in more detail in table 45. New apprenticeships in the building and construction trades are the largest group with 5400 completions in 1999, but these completion numbers had declined to only 4300 in 2000.

Figure 20: Growth in apprenticeship and traineeship and new apprenticeship completions* by major occupational group, 1995–2000



Note: * The number of completions over the 12 months ending 30 June
Source: NCVER (2000g)

Table 45: Completions in the skilled trades and related occupations, 1995–2000

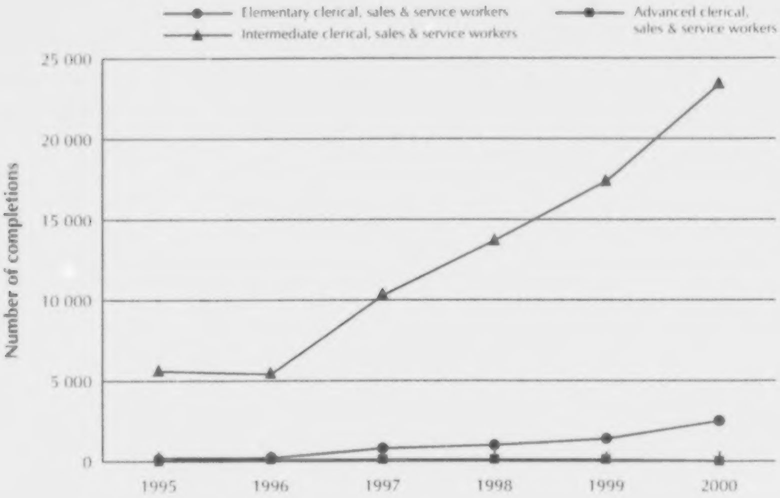
Trade occupations	No. of completions* ('000)					
	1995	1996	1997	1998	1999	2000
Mechanical & fabrication engineering tradespersons	4.7	4.0	4.3	4.8	4.9	5.1
Automotive tradespersons	3.9	3.7	4.4	4.9	4.9	4.4
Electrical & electronics tradespersons	3.7	3.3	3.3	3.6	3.6	3.8
Construction tradespersons	4.4	4.6	5.8	6.2	5.4	4.3
Food tradespersons	2.4	2.5	2.7	2.9	2.8	3.7
Skilled agricultural & horticultural workers	0.7	0.7	0.7	0.7	0.7	0.7
Other tradespersons & related workers	3.6	3.7	4.2	4.5	4.1	3.7
Total tradespersons & related workers	**23.4**	**22.6**	**25.4**	**27.6**	**26.4**	**25.7**

Note: * The number of completions over the 12 months ending 30 June.
Source: NCVER (2000g)

Completions from the mechanical and fabrication and engineering new apprenticeships (5100) were the highest of any of the skilled trades groups in 2000. Next came completions in the automotive trades (4400). Completions in the electrical and electronic trades (3800) and completions in the food trades (3700) were also substantial. In all cases the growth of completions in the skilled trades has been modest (table 45).

By contrast, growth in the numbers of apprentice, trainee and new apprentice completions in the elementary and intermediate clerical, sales and service categories has been rapid since 1995, as shown in figure 21.

Figure 21: Growth in apprenticeship and traineeship and new apprenticeship completions* in the clerical, sales and service occupations



Note: * The number of completions over the 12 months ending 30 June.
Source: NCVER (2000g)

7.4 The characteristics of people completing apprenticeships and traineeships and new apprenticeships

As the characteristics of those entering apprenticeships and traineeships have changed, so too have the characteristics of those completing. The same trends are evident in completions as in commencements in terms of gender and age, allowing for the lag effect of time taken to complete a contract of training.

The gender and age of completing apprentices, trainees and new apprentices

Males accounted for almost 60% of completions in new apprenticeships in 2000 as shown in table 46.

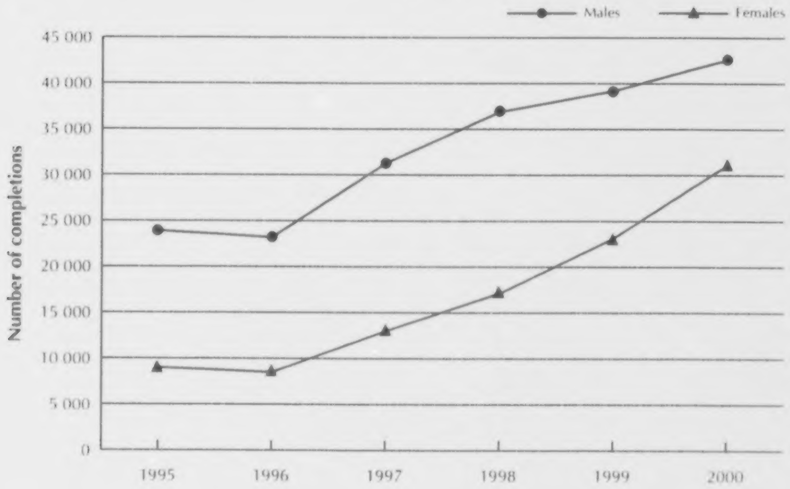
However, the gap between males and females in terms of apprentice and trainee completions has narrowed since the mid-1990s, as shown in figure 22. Female completions have more than trebled since 1995 growing from 9000 in 1995 to over 31 000 in 2000.

Table 46: New apprenticeship completions by gender, 2000

Gender	No. of completions* ('000)	Proportion of completions (%)
Male	42.6	57.8
Female	31.1	42.2
Persons	73.7	100.0

Note: * The number of completions over the 12 months ending 30 June 2000.
Source: NCVER (2000g)

Figure 22: Growth in the number of apprenticeship and traineeship and new apprenticeship completions* by gender, 1995–2000



Note: * The number of completions over the 12 months ending 30 June.
Source: NCVER (2000g)

The number of males completing apprenticeships and traineeships has also grown over the period 1995 to 2000, but at a much more modest rate. As shown in figure 22, male completions rose from 23 900 in 1995 to 42 600 in 2000.

Around half of all new apprentices are aged 20 to 24 years when they complete their contract of training as shown in table 47. Over 23% of completing new apprentices are aged 25–39 years. Some 16% are aged 40 years or more when completing their contract of training and only 15% are still teenagers when they complete their new apprenticeship.

Table 47: New apprenticeship completions by age, 2000

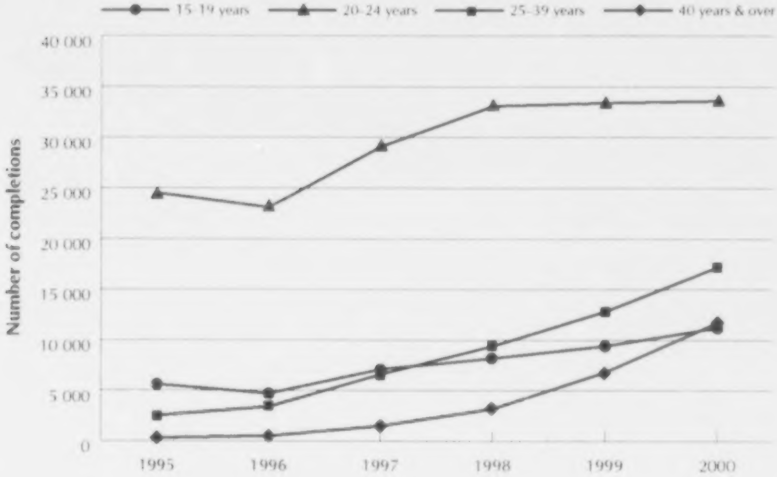
Age group	No. of completions[a] ('000)	Proportion of completions (%)
15–19 years[b]	11.2	15.2
20–24 years	33.6	45.6
25–39 years	17.2	23.4
40 years and over	11.7	15.9
All ages (15 to 64)	73.7	100.0

Notes: (a) The number of completions over the 12 months ending 30 June.
(b) Includes a small number aged less than 15 years.
Source: NCVER (2000g)

While all age groups have experienced strong growth in the numbers of completions (figure 23), the largest growth since 1995 has been amongst those aged 40 years or more when completing (albeit from a very low base in 1995). Nevertheless completions by 40-year-olds and over have grown at an annual rate of growth of well over 100% since 1995.

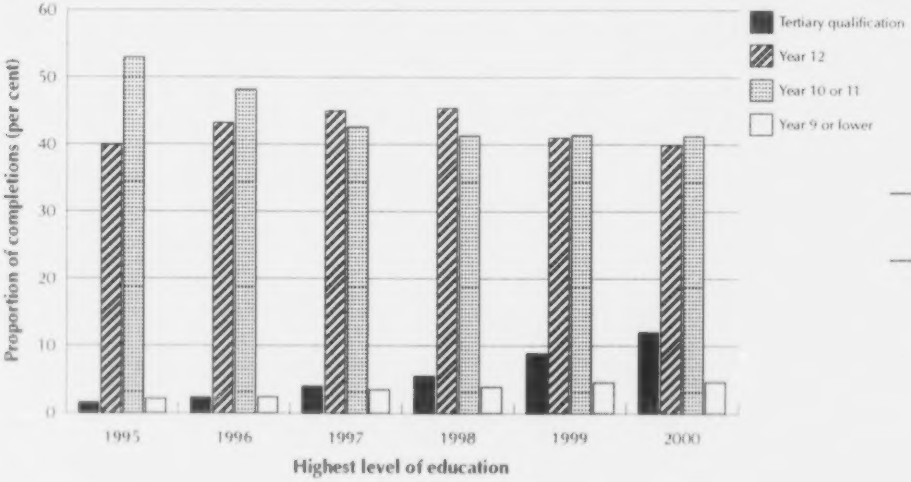
Strong growth in completions by persons aged 25 to 39 years has also been seen since 1995 with completions increasing from only 2500 in 1995 to 17 200 in 2000. Completions by teenagers have almost doubled since 1995. Teenage completions have grown from 5600 in 1995 to 11 200 in 2000. Total numbers of completions in the 20 to 24-year-old age group have grown from 24 500 in 1995 to 33 600 in 2000 (figure 24).

Figure 23: Growth in the number of apprenticeship and traineeship and new apprenticeship completions* by age, 1995–2000



Note: * The number of completions over the 12 months ending 30 June.
Source: NCVER (2000g)

Figure 24: Completions* by highest previous educational attainment, 1995–2000



Note: * The number of completions over the 12 months ending 30 June.
Source: NCVER (2000g)

Highest previous level of educational attainment

The highest previous educational attainment of completing apprentices, trainees and new apprentices is shown in figure 24 (page 113). Similar proportions of completors (around 40%) had either completed Year 12 or Year 10 or 11 prior to commencing in their apprenticeship, traineeship or new apprenticeship. The proportion of completors having completed Year 12 has changed very little since 1995, whereas the proportion having only completed Year 10 or 11 has fallen substantially from over 50% in 1995 to just 40% in 2000.

The proportion of apprenticeship, traineeship or new apprenticeship completors who had previously obtained another tertiary qualification has risen markedly since 1995 from 1.5% to over 12% in 2000 (figure 24). There has also been an increase from a low base in the number of completors who had achieved a schooling level of Year 9 or lower as their highest level of educational attainment—from 2.1% in 1995 to 4.7% in 2000.

Geographic region

New apprenticeship completions in 2000 are shown in table 48. Queensland with 27% of all completions enjoys a much higher share than its national share of the working-age population of 18.7% would suggest. Tasmania with 7.9% of national completions also has a share which significantly exceeds its share of the working-age population of 2.3%.

Table 48: Apprenticeship and traineeship and new apprenticeship completions in each State and Territory, 1995 and 2000

State/Territory	1995		2000		Share of 15–64-year-old population (%)
	No. of completions* ('000)	Proportion of total (%)	No. of completions* ('000)	Proportion of total (%)	
New South Wales	12.6	38.4	16.6	22.6	33.5
Victoria	6.6	20.0	15.2	20.6	24.9
Queensland	5.7	17.4	19.9	27.1	18.7
Western Australia	3.1	9.3	6.7	9.1	10.0
South Australia	2.5	7.6	6.0	8.1	7.7
Tasmania	1.4	4.2	5.8	7.8	2.4
Australian Capital Territory	0.7	2.1	2.6	3.5	1.7
Northern Territory	0.4	1.1	0.9	1.2	1.1
Australia	32.9	100.0	73.7	100.0	100.0

Note: * The number of completions over the 12 months ending 30 June.
Source: NCVER (2000g)

As with commencements, New South Wales is significantly under-represented in its share of national new apprentice completion with only 22.6% (compared with a 33.5% share of Australia's working-age population).

Victoria and Western Australia also have slightly lower shares of national new apprentice completions than their population shares would suggest, while South Australia, the Australian Capital Territory and the Northern Territory are slightly over-represented in their shares of national completion numbers.

Turning to completions in rural and urban areas of Australia, just over 61% of all completions are by new apprentices in urban areas, most of which are in capital cities, as shown in table 49. Most of the remainder are in rural and remote locations.

In terms of proportional shares of new apprentice completions compared with regional shares of the working-age population, capital cities are under-represented in their share of new apprentice completions. More than a third of all new apprentice completions occur in rural and remote areas which account for only a quarter of the working-age population.

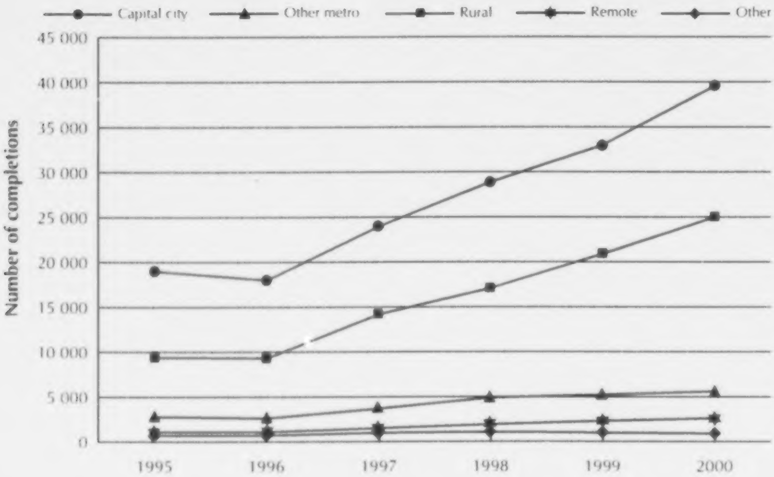
The growth of completions has been strongest in rural areas. As shown in figure 25 (page 116), apprentice and trainee and new apprentice completions in rural Australia have grown from around 9400 in 1995 to 25 000 in 2000. Although starting from a much lower base, remote area completions have also grown strongly from 1100 in 1995 to 2600 in 2000.

Table 49: New apprenticeship completions by geographic region, 2000

Geographic region	No. of completions[a] ('000)	Proportion of completions (%)	Proportion of working-age population (%)
Capital city	39.6	53.7	65.5
Other metropolitan	5.6	7.6	7.5
Rural	25.0	34.0	24.2
Remote	2.6	3.5	2.8
Other[b]	0.9	1.2	0.1
Total	**73.7**	**100.0**	**100.0**

Notes: (a) The number of completions over the 12 months ending 30 June 2000.
(b) Includes interstate, outside Australia or unknown location.
Source: NCVER (2000g)

Figure 25: Growth in the number of apprenticeship and traineeship and new apprenticeship completions* by geographic region, 1995–2000



Note: * The number of completions over the 12 months ending 30 June 2000.
Source: NCVER (2000g)

Completions by Indigenous new apprentices

The number of completions by Indigenous apprentices, trainees and new apprentices has grown strongly since 1995, as shown in table 50. The Indigenous share of total completions reached a peak of 2.7% in 1999, well ahead of the Indigenous share of 1.9% of the working-age population.

Table 50: Completions by Indigenous apprentices and trainees and new apprentices, 1995–2000

Year	Indigenous people		Non-Indigenous people[a]	
	No. of completions[b] ('000)	Proportion of total (%)	No. of completions[b] ('000)	Proportion of total (%)
1995	0.1	0.3	32.8	99.7
1996	0.2	0.7	31.5	99.3
1997	0.9	2.0	43.4	98.0
1998	1.3	2.3	52.7	97.7
1999	1.7	2.7	60.7	97.3
2000	1.2	1.7	72.4	98.3

Notes: (a) Includes those whose Aboriginality was not stated.
(b) The number of completions over the 12 months ending 30 June.
Source: NCVER (2000g)

However, during 2000, Indigenous completion numbers declined quite sharply to only 1.7% of all new apprentice completions. It is too early to tell whether this is a temporary aberration or the beginning of a longer-term adverse trend. Prior to 2000, Indigenous completion rates more than matched those of non-Indigenous apprentices, trainees and new apprentices, considering that, in 1999, Indigenous people held some 1.8% of all new apprenticeships but achieved 2.7% of all successful completions.

This situation will need to be kept under review over the next few years, and new policies aimed at raising Indigenous completions may be needed if completion levels do not recover to the very good levels experienced in 1998 and 1999.

Completions by apprentices, trainees and new apprentices of non-English-speaking backgrounds

People of non-English-speaking background only made up 5.0% of all new apprentice completions in 2000. As shown in table 51 this proportion has risen steadily since 3.3% in 1995.

Table 51: Completions by apprentices and trainees and new apprentices with a non-English-speaking background, 1995–2000

Year	**Non-English-speaking background**		**English-speaking background[a]**	
	No. of completions[b] ('000)	Proportion of total (%)	No. of completions[b] ('000)	Proportion of total (%)
1995	1.1	3.3	31.8	96.7
1996	1.2	3.7	30.5	96.3
1997	1.8	4.0	42.6	96.0
1998	2.4	4.4	51.6	95.6
1999	2.9	4.7	59.4	95.3
2000	3.7	5.0	70.0	95.0

Notes: (a) Includes those whose language background was not stated.
(b) The number of completions over the 12 months ending 30 June.
Source: NCVER (2000g)

As noted in chapter 6, some 14% of the Australian working-age population come from a non-English-speaking background, yet only 7% of new apprentices are of a non-English-speaking background. With only 5% of new apprentice completions by 2000, new apprentices of non-English-speaking backgrounds are falling behind their pro-rata share of successful outcomes in the new apprenticeship system, even though the gap between apprentices and trainees from non-English-speaking backgrounds and other apprentices and trainees has narrowed steadily over the 1990s.

Completions by apprentices and trainees and new apprentices with a disability

The proportion of national completions achieved by apprentices and trainees and new apprentices with a disability has improved significantly since 1995. As shown in table 52, only 0.3% of all apprentice and trainee completions were by those with a disability, whereas this level reached 1.8% by 2000. It fell slightly from a peak of 1.9% in 1999.

Table 52: Completions by apprentices and trainees and new apprentices with a disability, 1995–2000

Year	With a disability		Without a disability[a]	
	No. of completions[b] ('000)	Proportion of total (%)	No. of completions[b] ('000)	Proportion of total (%)
1995	0.1	0.3	32.8	99.7
1996	0.2	0.6	31.5	99.4
1997	0.3	0.7	44.0	99.3
1998	0.6	1.2	53.3	98.8
1999	1.2	1.9	61.2	98.1
2000	1.3	1.8	72.3	98.2

Notes: (a) Includes those whose disability was not stated.
(b) The number of completions over the 12 months ending 30 June.

Source: NCVER (2000g)

This share of national completions by new apprentices with a disability is almost commensurate with the 2% share of all new apprenticeships undertaken by people with a disability. People with a disability are succeeding in the system at a rate comparable with their representation in new apprenticeships.[19]

7.5 Apprenticeship and traineeship completion rates and attrition

Interest in Australia in the levels and rates of successful completion amongst apprenticeships and traineeships has been rising in recent years. There appears to be a number of reasons for this. Clearly the reform of Australia's apprenticeship and traineeship system of the past decade has heightened concern over whether this change is producing better outcomes for apprentices and trainees. In particular, the rapid expansion of the shorter traineeships, which have traditionally experienced higher rates of attrition and lower rates of completion than apprenticeships, has created even more concern about falling rates of success from the system.

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[19] More information about the gender, age, educational background, location and other characteristics of completing apprentices and trainees and new apprentices is given in appendix 1, tables 121–31.

This concern has been put most clearly in a number of State-level reviews of the apprentice and trainee system undertaken between 1999 and 2000 in Queensland, Tasmania and Victoria (see Schofield 1999a, Schofield 1999b, Schofield 2000). These studies illustrate the different rates of completion across Australia and conclude that these rates are unacceptably low. In Queensland in particular, these rates have been estimated to be as low as 47% for apprentices and 43% for trainees (Smith 2000). These figures translate to non-completion rates of over 50% in both cases.

Given these concerns and State-level findings, it is important to consider the national evidence available in order to determine the overall situation in Australia concerning the levels of completions and attrition from the apprenticeship and traineeship system.

Traditionally, aggregate level administrative data has been used to determine proxy completions and attrition rates using the ratio of completions to commencements. Such studies generally used the ratio of completions to commencements four years earlier as a proxy for apprenticeship completion rates and the ratio of completions to commencements in the previous year as a proxy for traineeship completion rates.

Studies using this approach to determine apprenticeship completion rates such as that undertaken by the Department of Employment, Education, Training and Youth Affairs (DEETYA 1997), found that, during the 1970s, attrition was under 30%, but by the 1990s it had approached 40%.

In figure 26 (page 120) the ratios of apprenticeship completions to commencements four years earlier and traineeship completions to commencements one year earlier are shown.[20]

In relation to apprentice completions, the ratio fluctuated significantly, reaching over 90% in 1973 before plummeting to under 60% in 1974. These large swings continued throughout the rest of the 1970s. The situation became more stable during the 1980s when the ratio averaged around 75%. However, by the late 1980s and early 1990s it fell to between 60 and 65%. In 1994 it fell to a record low of 55% but rose to 60% by 1997, the final year in which apprenticeships can be identified separately (figure 26).

Traineeships displayed a more stable pattern with a completions to commencements ratio of between 60 and 65% in most years. However, the ratio fell to below 55% for traineeship completions in 1996 and 1997.

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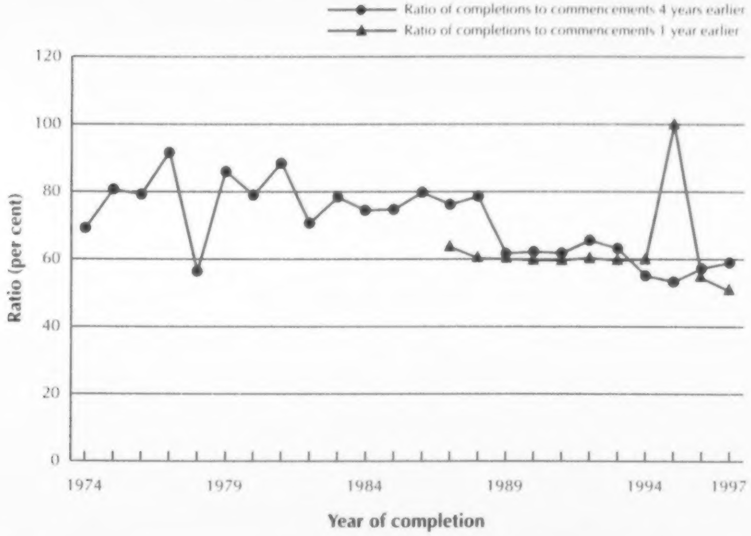
[20] The actual ratios are shown in appendix 1, table 132.

Figure 26: The ratios of completions and commencements for apprenticeships[a] and traineeships[b], 1970–97



Notes: (a) Ratio of apprenticeship completions to commencements four years earlier.
(b) Ratio of traineeship completions to commencements in the previous year.
Sources: DEIR (1986); DEYA (1980); NCVER (2000g)

Little wonder then that most observers have concluded non-completions have been increasing at an alarming rate.

Such crude proxies using aggregate administrative data for determining completion and attrition rates are, however, completely misleading. There are two main reasons for this.

First, methods using crude proxies do not take full account of recommencements, a critical factor with apprenticeships and traineeships. There is considerable evidence to show that many people commence in an apprenticeship or traineeship to 'try it out', only to find out their vocational future lies elsewhere. These so-called 'drop-outs' are officially recorded as a 'failure' of the system even though they frequently take up other education and training options, or they recommence at a later date in another apprenticeship or traineeship. Only recommencements in the same apprenticeship or traineeship (that is, in the same occupations) are recorded as an official recommencement in the system. Moreover, since 1994 recommencements have not been included in the official commencement statistics because of concerns about data quality and reliability. However, Ray et al. (2000, p.9) found that between July 1994 and June 1996 almost half of those apprentices who withdrew from or cancelled their contract of training subsequently recommenced.

Second is the issue that official statistics do not record all completions which actually occur because of the complexity of the process. The NCVER study of expired contracts referred to earlier found that national completion estimates are under-estimated by as much as 20%.

These factors have a considerable bearing on determining the true rates of completions and attrition. Clearly, methodologies to determine accurate measurements of completions should involve tracking individual apprentices and trainees through the system to determine the outcomes they eventually attain.

In looking at attrition and completion rates for both apprentices and trainees, it is important to bear in mind the two components of contracts of training; that is, the period of indenture or contract duration and the formal requirements for skill attainment. Because both of these factors are at play, rates of attrition and non-completion need to be compared with rates of labour turnover and separation from jobs, as well as notions of non-continuation associated with educational and institutional pathways.

The only in-depth analyses of attrition and completion rates available using these more appropriate methods have been undertaken by the Australian Council for Educational Research by Lamb et al. (1998), using longitudinal data and by the Department of Education, Training and Youth Affairs in 1999 for trainees (Grey et al. 1999) and in 2000 for apprentices (Ray et al. 2000).

As shown in table 53, this work shows that the rate of non-completion for trainees has averaged about 40% since 1985, rising to 44% in recent years. This rate was lower for apprentices, suggesting an upper limit of approximately 30% and a lower limit of around 23% for apprentices' attrition four years after commencement.

Table 53: Estimates of apprenticeship and traineeship completion and non-completion rates

Indicator	Year of commencement	Completions (%)	Non-completions (%)
Australian			
Traineeships Scheme(a)	1985–1993	61.0	39.0
Traineeships(a)	1995	57.3	42.7
Traineeships(a)	1996	56.5	43.5
Traineeships(a)	1997	55.1	44.9
Apprenticeships(b)	various	76.0	24.0
Apprenticeships(c)	1994–1995	73–77	23–27
Apprenticeships(c)	1995–1996	70–74	26–30

Notes: (a) See Grey et al. (1999) for a detailed explanation of the methodology used to derive these estimations.
(b) See Lamb et al. (1998) for a detailed explanation of the methodology used to derive this estimate.
(c) See Ray et al. (2000) for a detailed explanation about the methodology used to derive these estimates.
Sources: Grey et al. (1999); Lamb et al. (1998); Ray et al. (2000)

This research also gave some insights about why apprentices and trainees do not complete their contracts of training. For instance, some of the key findings of the report by Grey et al. (1999) were that, for trainees:

- The rate of non-completion of traineeships is of the same order as the rate of separation from permanent jobs (that is, jobs similar to traineeships) within a year of commencement, but considerably higher than the rate of non-continuation in other forms of education. In other words, job turnover is high and just under half of all people in a new job leave that job within the first year, irrespective of whether or not they are in a traineeship.
- Trainees with low levels of educational attainment were at risk of failing to complete.
- Other things being equal, individuals who complete a traineeship have a considerably higher chance of being in unsubsidised employment three months after exit than non-completors.
- Non-completion appears to be as much a matter of choice as necessity, with 55% leaving of their own accord. Reasons include a perception that wages were too low, a lack of training and poor workplace relations.

In the case of apprentices some of the key findings of the research by Ray et al. (2000) were that:

- Levels of prior educational attainment again appear to have a significant impact on the likelihood of non-completion.
- Gender and age also appear to have an effect on the likelihood of attrition, with female apprentices more at risk than males. The probability of attrition also increases with age.
- Employment with group training companies leads to a higher risk of non-completion compared to employment with private sector and other organisations.
- Food and miscellaneous occupations face a higher likelihood of attrition compared to other occupations.
- Apprentices recruited during the March quarter have the lowest level of attrition.

Further, the five most common reasons trainees reported for non-completion were:

- laid off (17%)
- business broke/changed owner (16%)
- personality clash/harassment (14%)
- pay was too low (11%)
- job offer (8%)

In Queensland, Callan (2000) investigated the reasons for new apprentice non-completion in the light of persistent concerns in that State about the apparently high numbers of non-completors. Callan's work confirmed that gender, age and the location of the new apprenticeship in certain occupations contribute towards the likelihood of non-completion. However, a survey of non-completors revealed that there was a wide range of reasons given by apprentices and trainees for not completing their training. These included issues concerned with the workplace, such as relationships with managers and pay levels, as well as reasons concerned with the quality of the training they received.

More recent work being undertaken by the National Institute of Labour Studies (Cully & Curtain 2000) confirms the observation that age affects rates of completion. The report also found that where the apprentice/trainee was an existing worker, non-completion rates were above expected levels.

Reasons for non-completion in order of ranking were:

- dissatisfaction with the job or employer (53%)
- employer-initiated reasons (19%)
- dissatisfaction with the training component of the job (19%)
- personal reasons (11%)

The initial findings of the work by Cully and Curtain (2000) tend to confirm the Department of Education, Training and Youth Affairs findings that it is aspects of the employment relationship rather than the training relationship which impact on non-completion, with over half of all non-completors surveyed giving job or employer-related reasons for leaving. However, this research differs from the earlier work of the Department of Education, Training and Youth Affairs in concluding that non-completion appears to be self-initiated and does not necessarily affect subsequent 'employability', with 81% of non-completors found to be in paid work.

Notwithstanding this, another important initial finding from Cully and Curtain (2000) is that some 19% of apprenticeship and traineeship *non-completors* said they did not receive any training in their contract of training. On the face of it this is a very disturbing finding. Of the 23% to 30% of apprentices who do not complete their apprenticeship, and of the 45% or so of trainees who do not complete their traineeship, almost one in five said they did not receive any training. In some cases they may have been involved in fully on-the-job training indistinguishable to them from normal everyday work. However, noting that the highest rates of attrition occur within the initial period of an apprenticeship or traineeship, it is likely that many of these non-completors left their apprenticeship or traineeship before the formal off-the-job training components had begun. This research is not yet complete, and these results need to be treated with caution. Yet poor-quality training is quite clearly a factor in non-completion in a small proportion of cases.

Other recent research (Harris et al. 2001) has found that interaction between personal, work-related (occupational differences) and training (length of training, integration between on- and off-the-job training) dimensions are significant in determining the likelihood of completion. This research also confirms the importance of the occupation in influencing completions, with relatively high rates of non-completion found with cooks compared with the much lower rates of non-completion in other skilled trades occupations.

Clearly attrition and non-completion are complex and multi-dimensional phenomena, whatever the rate or level at any particular point in time. Given the complexity of the relationships between employer, trainee and trainer or provider, current rates of completion would seem to be relatively normal, rather than a cause for alarm. This is particularly so when viewed in relation to the job mobility that occurs naturally in the labour market amongst job holders in their first year in a job.

Considering the pattern of attrition over the life of an apprenticeship, Ray et al. (2000) reported that 'the highest rate of attrition occurs in the first three months of training. After six months of training the rate at which apprentices leave training slows considerably' (Ray et al. 2000, p.3).

As can be seen in table 54, which summarises the analysis of Grey et al. (2000), some 5% of apprentices leave in the first three months of the apprenticeship. A further 3 to 4% leave in the next three months. Thus the attrition rate totals 8 to 9% in the first six months of an apprenticeship. Some 13 to 16% withdraw within the first year of an apprenticeship.

Table 54: Cumulative attrition rates over the term of an apprenticeship

Time since commencement of apprenticeships	**Apprenticeship attrition rates* (%)**		
	1994–95 intake	1995–96 intake	Overall range of attrition rates
3 months	5	5	5
6 months	8	9	8–9
9 months	11	13	11–13
12 months (1st year)	13	16	13–16
15 months	15	18	15–18
18 months	16	20	16–20
21 months	18	na	18–na
24 months (2nd year)	20	na	20–na
27 months	21	na	21–na
30 months	22	na	22–na
48 months (projection for end of 4th year)	23–26	27–30	23–30

Notes: na=not available
* Calculated using NCVER apprenticeship data.
Source: Ray et al. (2000, pp.16–19)

During the second year of an apprenticeship, attrition rates slow so that after two years the total attrition rate is only in the order of 20% (noting that this represents a lower estimate of the attrition rate). Attrition by the end of the four-year, full-term of apprenticeships is estimated to be in the range of some 23 to 30%.

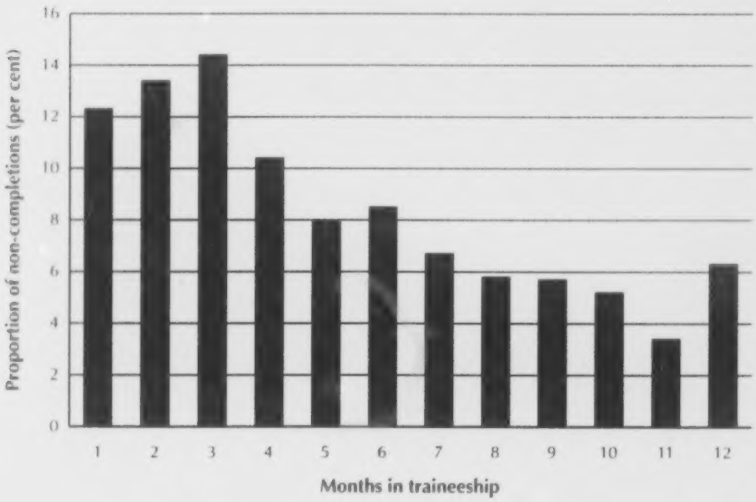
This pattern means that over 50% of all the attrition that occurs in apprenticeships occurs within the first year. Moreover, some two-thirds of the attrition within the first year actually occurs within the first six months of an apprenticeship.

Overall levels of non-completion in traineeships were higher, at around 44% by 1995 and 1996, as reported earlier in this chapter. Like apprenticeships, much of the attrition occurs within the initial period of the traineeship. The proportion of attrition occurring in each month of a typical 12-month traineeship by traineeship non-completors in 1995 and 1996 is shown in figure 27.

Some 40% of all traineeship attrition occurs within the first three months of a 12-month traineeship. Almost 70% of total attrition occurs within the first six months of a traineeship (figure 27).

These patterns indicate the importance of the experience within the initial period of an apprenticeship or traineeship to successful completion of any apprenticeship or traineeship.

Figure 27: The proportion of non-completors in 12 months of leaving in each month of the traineeships, 1995–96



Source: Grey et al. (1999, p.21)

Table 55: Indicators of completion and non-completion rates for apprenticeships, traineeships, overall vocational education and training and university

Type of education and training	Measure	Completion rate (%)	Non-completion rate (%)	Source
Apprenticeships	Proportion of persons in the Australian Longitudinal Survey who had entered an apprenticeship by age 19 years and had completed that apprenticeship by age 24.	76	24	Lamb et al. (1998)
Apprenticeships	Proportion of apprentices commencing who completed is derived from first determining the attrition rate. The attrition rate is the proportion of commencing apprentices who leave prior to completion and who do not recommence within two years			
	• proportion of apprentices commencing in 1994–95	73–77	23–27	Ray et al. (2000)
	• proportion of apprentices commencing in 1995–96	70–74	26–30	Ray et al. (2000)
Traineeships	The proportion of commencing trainees who completed is derived from first determining the attrition rate. The attrition rate is the proportion of commencing trainees who fail to complete their traineeship			
	• proportion of trainees commencing in 1995	57.3	42.7	Grey et al. (1999)
	• proportion of trainees commencing in 1996	56.5	43.5	Grey et al. (1999)
	• proportion of trainees commencing in the first quarter of 1997	55.1	44.9	Grey et al. (1999)
Technical and further education (TAFE) courses	The completion rate is defined as the proportion enrolling in 1994 to 1996 who successfully completed the full modules/curriculum hours for the course (some 27%) or who partially completed the course by successfully completing all modules they enrolled in but did not do a full course (49%). Non-completion is defined as anyone who did not successfully complete a full course or who failed or withdrew from one or more modules.	27 course completion + 49 partial course completion	24	Foyster et al. (2000)

Table 55: Indicators of completion and non-completion rates for apprenticeships, traineeships, overall vocational education and training and university (cont.)

Type of education and training	Measure	Completion rate (%)	Non-completion rate (%)	Source
Module (i.e. subject) enrolments in vocational education and training	Completion of all module enrolments in 1997 is defined as all enrolments that resulted in a pass or credit being given for prior study or were completed but not assessed (77.1%) or were continuing in studies (5.5%). Non-successful completion is defined as module enrolments that resulted in a fail/result withheld or a withdrawal.	82.6	17.4	NCVER (2000d)
University undergraduates	Completion is defined as the number of undergraduate completions as a proportion of the number who commenced in an undergraduate degree three years earlier. Non-completion is the residual.	65	35	OECD (2000b)
University undergraduates	Completion is defined by first determining non-completion. Non-completion is defined as all undergraduate students who in 1992 had completed an award by 1997 or were not still studying in the institution of enrolment in 1997. Thus, completion is defined as all undergraduate students who enrolled in 1992 and had completed an award at that institution by 1997 (60%) or had not yet completed an award but were still studying.	66	34	DETYA (1999)

Sources: DETYA(1999); Grey et al. (1999); Lamb et al. (1998); NCVER (2000d); OECD (2000b); Ray et al. (2000)

Perhaps the best indication of the relative success or otherwise of apprenticeship and traineeship completion is a comparison with completion rates attained by people from other forms of education and training. Indicators of completion rates from apprenticeships, traineeships, TAFE courses, module enrolments in vocational education and training and from university undergraduate degree courses are shown in table 55 (page 126).

As discussed earlier, various national research studies undertaken by the Department of Education, Training and Youth Affairs show rates of non-completion of around 30% for apprentices (Ray et al. 2000) and around 40% to 44% for trainees (Gray et al. 1999).

In the context of VET, course completion rates are not the main indicator of success, given that only around two-thirds enrol in full courses. Available national research on completion rates in TAFE generally suggests that these are around 76%, taking partial completions into account. This comprises 27% of students completing a full course and a further 49% who complete all the modules or subjects in which they enrolled (partial completion). The diversity of TAFE and other VET provision in terms of the mix of accredited and non-accredited courses, the variation in length and so on makes direct comparison of course completions difficult and not necessarily very relevant.

The completion rates of those in apprenticeships and in TAFE more generally (if taking into account module enrolments as well as course completions), at round 75%, are by far the highest levels experienced by any students or trainees in Australia.

Only two-thirds of enrolling students ever complete undergraduate university bachelor degree programs in Australia, a success rate lower than for apprentices.

Completion rates are, however, lowest for those undertaking shorter traineeships, with only 55% of trainees completing their traineeships. Nevertheless, this rate is similar to overall levels of job mobility in the labour market in terms of the retention of people in a new job in the first year of that job.

The clear message from the research is that inappropriate crude proxies for measuring completion, attrition and non-completion rates can yield a grossly distorted picture of the actual situation.

According to recent Department of Education, Training and Youth Affairs (DETYA) analyses (1999), the biggest single factor affecting the completion prospects of most undergraduate university students is whether they study full or part time. On an annual basis, the estimated probability of attrition for full-time undergraduates is under half that of external and part-time undergraduates (14% compared to 31%).

8 Employment outcomes and career prospects from apprenticeships, traineeships and new apprenticeships

VERY LITTLE ATTENTION in Australia has been paid to the employment retention and job outcomes of apprentices, trainees and new apprentices once they have completed their contracts of training. This is most surprising given the high level of attention that apprenticeships, traineeships and new apprenticeships have received from governments and employers. Further, almost no attention has been paid to the issue of the longer-term career prospects of apprentices and trainees. The main focus of policy-makers (and public debate) has been on issues such as raising the numbers entering the system or the perception that non-completion is inordinately high.

This focus on the 'front end' of the system is natural enough, but it has meant that the real success of apprenticeships, traineeships and new apprenticeships in terms of employment retention/obtaining new employment has almost passed unnoticed.

Moreover, the system has suffered from a perception that it leads to jobs in declining industries characterised by poor pay and conditions and poor long-term career prospects.

Marshman (1997) when undertaking a major study on barriers to employers taking on apprentices in the building, electrical and engineering industries summed up the view about poor perception of apprenticeships and the trades that existed in the mid-1990s:

> *There was a general consensus that the image and status of the traditional trades are at an all-time low, and that contributing factors include:*
>
> - *the perception that vocational education 'takes a back seat' in the secondary school system, and with parents*
> - *the poor image of manufacturing and the widespread belief that it has no future (despite skill shortages)*
> - *redundancies associated with industry restructuring which have left middle-aged tradespeople without work, or having to relocate to find it*
> - *the view that trade skills are no longer 'a ticket for life'*

- *the lack of promotion and perceived lack of interest on the part of governments*
- *the attractiveness of alternative vocations which involve less study and less commitment, are perceived as having at least as much security and are more attractive financially* (Marshman 1997, p.4)

In this chapter the situation relating to employment retention and employment outcomes from apprenticeships, traineeships and new apprenticeships is explored, along with consideration of the longer-term career prospects of apprentices and trainees.

8.1 Employment retention and job outcomes from apprenticeships, traineeships and new apprenticeships

Employment outcomes from apprenticeships and traineeships are very good. As can be seen from table 56, some 80% of apprentices who successfully completed their apprenticeship in the 12 months ending June 1997 were retained by the employer with whom they had undertaken their apprenticeship, or had found employment with a new employer in an unsubsidised job three months after completing their apprenticeships. Such completions were typically from four-year apprenticeships at certificate III or equivalent level.

The 'much maligned' traineeships, also have very good employment outcomes. Some 85% of persons successfully completing a traineeship in the 12 months ending June 1997 were in an unsubsidised job after completion. Such completions were typically from one-year traineeships at certificate II or equivalent level.

Table 56: Employment outcomes from apprenticeships, traineeships and new apprenticeships 1997–2000

12 months ending	Proportion employed in unsubsidised employment 3 months after cessation (%)			
	Completors			Non-completors
	Apprenticeships	*Traineeships*	*Total*	*Total*
1997	80.0	85.3	85.3	39.8
1998*	83.3	85.0	85.0	50.2
1999*	93.3	90.7	91.2	68.7
2000*	90.5	93.2	93.1	70.1

Note: * New apprenticeships since 1998.
Source: Data from the post-program monitoring system supplied by the Department of Education, Training and Youth Affairs and the Department of Employment, Workplace Relations and Small Business

As can be seen from table 56, the employment rates of new apprentices who have completed their contracts of training under the new apprenticeship system which has been in operation since the beginning of 1998 have improved. As this table demonstrates, since 1997 there has been some volatility in the apprenticeship and traineeship figures. Nationally, new apprenticeships have been in operation since 1998. We can have confidence in the total new apprenticeship figures. The apprenticeship and traineeship figures are included for the purposes of illustration, but are based on local coding of new apprenticeships in apprenticeships and traineeships that is not consistent around Australia. Thus care should be exercised in drawing any conclusions using this apprenticeship/traineeship split.

By 2000, the proportion of new apprentices who were employed in unsubsidised employment three months after successful completion of a new apprenticeship was 93%. The employment includes retention in the occupation in which they undertook their new apprenticeship or employment in a new job and/or with a new employer (table 56). The growth since 1997 reflects a strong Australian economy in the second half of the 1990s and the response typically seen in the apprenticeship system in times of upturn in the economic cycle.

Although much lower, the employment outcomes of people who do not finish their apprenticeship, traineeship or new apprenticeship are also reasonably good. These outcomes have improved considerably since 1997, again reflecting the improved economic situation in Australia since the mid-1990s. Some 70% of new apprentices left their new apprenticeship contract of training without successfully completing it in the 12 months ending June 2000, but were employed in an unsubsidised job some three months after cessation (table 56). This suggests that there are some benefits to be gained from even partial completion of a new apprenticeship, but that these benefits would appear to be much greater at those times in the economic cycle when economic activity is strongest.

The benefits of new apprenticeships are clearly far higher if new apprentices successfully complete their new apprenticeship.

Another important issue is that these benefits increase the longer people stay in their contract of training even if they do not finish their full traineeship or apprenticeship.

For instance, Grey et al. (1999) reported the extent to which trainee employment outcomes increased for persons not fully completing their traineeship, the longer they stayed in the traineeship. Their results are reported in table 57. Some 39% of all those who did not complete their traineeship had a job three months after leaving their traineeship (compared with the 84% employment outcome for successful completors reported in table 56). However, the employment outcome was only around 37% for those leaving the traineeship in less than six months (that is, doing less than half of the traineeship).

Table 57: **Employment outcomes by traineeship duration for non-completing trainees, 1996–97**

Duration in traineeship	Proportion with unsubsidised employment 3 months after cessation of the traineeship (%)
0 and up to 3 months	36.0
3 and up to 6 months	37.0
6 and up to 9 months	40.6
9 and up to 12 months	50.7
Total	**39.1**

Source: Grey et al. (1999, p.16)

The employment rate rose to over 40% for those who stayed in their traineeship for six to nine months (that is, doing up to three-quarters of the traineeship). More than 50% had employment three months after leaving their traineeship if they had stayed in it for at least nine months, but still did not complete the whole traineeship.

Similar patterns of improving employment outcomes are evident for apprentices who do not complete their full apprenticeship.

Further information about the employment outcomes of traineeships is available from the Department of Education, Training and Youth Affairs longitudinal survey of completing trainees. Cully et al. (2000) analysed the employment and other outcomes achieved by a sample of 2081 trainees who commenced their traineeship in the March quarter of 1996 and went on to complete the traineeship.

The outcomes from this study are shown in table 58. Some 82% of all persons completing a traineeship retained or gained employment at the end of the traineeship. Most of these retained employment with their training employer (that is, 71% out of all traineeship completors). The remainder who were employed at the end of the traineeship (that is, 11% of all traineeship completors) found employment with a new employer.

Of those whose main activity just after completing the traineeship was not employment, most were unemployed and looking for work (that is, 13% of traineeship completors). Some 3% of traineeship completors went on to further study.

As shown in table 58, overall employment rates increased slightly 8–9 months and 12 months after traineeship completion. However, the numbers leaving their traineeship employer for another employer rose quite significantly over the 12 months after completion of a traineeship. The other significant trend is that the proportion who are unemployed falls significantly during the first year after completion of a traineeship, but the number not in the labour force rises (particularly those who opt for further study).

Table 58: Employment outcomes from traineeships

Main activity after traineeship completion	Proportion of traineeship completors (%) At the end of training contract	8–9 months after traineeship completion	12 months after traineeship completion
Employed			
With traineeship employer	71	60	50
With a different employer	11	27	33
Total employed	**82**	**87**	**83**
Unemployed	13	7	7
Not in labour force			
Further study	3	4	5
Home duties	1	2	2
Travelling/holidays	1	1	0
Illness	0	0	1
Other	0	0	1
Total not in labour force	**5**	**7**	**9**
Total (%)	**100**	**100**	**100**
Total number in sample	2078	2062	2072

Sources: Data from Department of Education, Training and Youth Affairs longitudinal survey of completing trainees; Cully et al. (2000, p.34)

These high rates of employment retention (or in some cases employment in a new job) are also evident from results of the national student outcomes survey conducted by the NCVER. This survey measures the employment status at the end of May of all persons successfully completing a TAFE course sometime in the previous calendar year.

Those indicating that their source of income while doing their TAFE course was an apprenticeship or traineeship can be identified.

On the basis of the 2000 student outcomes survey, almost 94% of all persons gaining a certificate or other qualification from a TAFE institute as part of their new apprenticeship during 1999 were employed at the end of May 2000. These results are shown in table 59. The employment rate was almost 96% for persons who undertook a TAFE course as part of an apprenticeship; it was over 86% for persons who undertook a TAFE course as part of a traineeship.

It is important to note that the employment outcome for apprentices has included those apprentices whose formal course work off the job and in a TAFE institute has been successfully completed and culminated in the award of a qualification, but who still may not yet have completed the final year of their contract of training. Thus, 'employment outcome' for these apprentices is retention in the final stages of their apprenticeship. In the case of traineeships and in other cases where the apprenticeship has been fully completed, the 'employment outcome' represents retention as a qualified worker with the same employer with whom the new apprenticeship was undertaken, or employment with a different employer once the new apprenticeship was completed. Again, care needs to be exercised in drawing conclusions about the differences between apprenticeships and traineeships. The distinctions here are based on whether students identified themselves as being in an apprenticeship or traineeship, noting that a single new apprenticeship system has been in operation since 1998. Thus, we can have much more confidence in the total figure for new apprenticeships.

Table 59: Employment and labour force status at the end of May 2000 of new apprentices[a] in 1999 who gained a qualification during 1999

Employment and labour force status at end May 2000	Proportion (%)
Employed after course	
Apprenticeships[b]	95.7
Traineeships	86.2
New apprenticeships[c]	93.6
Unemployed after course	
New apprenticeships[c]	3.0
Not in labour force after course	
New apprenticeships[c]	3.4
Total	**100.0**

Notes: (a) New apprentices are all those who completed a qualification from a TAFE course during 1999 and who indicated that their source of income while doing the course was an apprenticeship, or a traineeship or a new apprenticeship.

(b) Apprenticeships include the small number who stated that their source of income was both an apprenticeship and a traineeship.

(c) New apprenticeships are the total of apprenticeships and traineeships.

Source: NCVER (2000g)

The unemployment rates are extremely low for such people, with only 3% unemployed or looking for full- or part-time work by the end of May 2000, having obtained a qualification from TAFE during 1999 as part of their new apprenticeship. Similarly only 3% were not in the labour force.

Looking at the types of jobs such people were obtaining, almost two-thirds were employed in the skilled trades occupations as shown in table 60. Some 11% were employed in clerical, sales and service occupations, and some 5% were employed as associate professionals or in labourer and related occupations.

New research by Ball and Phan (forthcoming) examines the employment outcomes of different groups of Australians in apprenticeships. Regression modelling was conducted to assess if demographic factors affect the likelihood of continuous employment after the completion of an apprenticeship or traineeship. This research involved the analysis of unit record level data from the 1997 and 1998 TAFE graduate destination surveys and the 1999 graduate outcomes survey conducted by the NCVER. The employment outcomes of TAFE graduates in May of the year following the completion of their course are reported in the surveys. The modelling methodology took account of differences in field of study, level of qualification, length of training course, type of training (apprenticeship or traineeship), age of apprentice or trainee, industry of employment, highest previous qualification, occupation, and type and size of employer (government or private sector). The results of the modelling relating to the employment outcomes of disadvantaged groups of Australians are summarised in table 61.

Table 60: The occupations at end May 1999 of new apprentices in 1998 who gained a qualification during 1998*

Occupational groups	Proportion (%)
Managers & administrators	1.2
Professionals	3.2
Associate professionals	7.0
Tradespersons & related workers	62.2
Advanced clerical & service workers	1.0
Intermediate clerical, sales & service workers	8.8
Intermediate production & transport workers	4.2
Elementary clerical, sales & service workers	5.6
Labourers & related workers	6.8
	100.0

Note: * The occupations of persons employed at end May 1999 who gained a qualification from TAFE during 1998 and who indicated that their source of income while doing the course was an apprenticeship, traineeship or new apprenticeship.

Source: Derived from NCVER student outcomes survey 2000 data

Table 61: The probability of continuous employment for apprentices from disadvantaged groups

Disadvantaged group	Parameter estimate and indication of significance at the 5% level of significance	Odds ratio
Indigenous Australian	0.07 – not significant	1.072
Non-English-speaking background	-0.27 – significant	0.761
Have a disability	-0.02 – not significant	0.985
Women	0.24 – significant	1.268

Source: Ball & Phan (forthcoming)

The results suggest that, in general, apprenticeships and traineeships provide very positive employment outcomes for people who identified themselves in the surveys as belonging to a disadvantaged group. Indeed, women were more likely than men to have been in continuous employment six months after the completion of their TAFE course had they undertaken an apprenticeship or traineeship. Indigenous Australians and people who reported that they have a disability were just as likely to have been in continuous employment as other Australians. The only group faring less well than TAFE graduates who were

Table 62: Employment outcomes from apprenticeships, traineeships and

Type of education and training	Measure
Apprenticeships	Employment in an unsubsidised job three months after an apprenticeship contract of training during 1999–200
	Employment status at end May 2000 of all persons wh qualification from TAFE during 1999 and who said thei of income while doing the course was an apprenticesh
Traineeships	Employment in an unsubsidised job three months after a traineeship contract of training during 1999–2000
	Employment status at end May 2000 of all persons wh a qualification from TAFE during 1999 and who said th of income while doing the course was a traineeship
New apprenticeships (total apprenticeships & traineeships)	Employment in an unsubsidised job three months after a new apprenticeship (i.e. total of apprentices & traine during 1999–2000
	Employment status at the end of May 2000 of all perso gained a qualification from TAFE during 1999 and wh source of income while doing the course was an appr traineeship (i.e. the total of new apprentices)

new apprenticeships, other VET courses and university courses

	Employment outcome (%)	Source of data
completing 00	90.5	DETYA post-program monitoring data
o gained a ir source ip	95.7	NCVER student outcomes survey
completing	93.2	DETYA post-program monitoring data
o gained heir source	86.2	NCVER student outcomes survey
completing es)	93.1	DETYA post-program monitoring data
ons who o said their enticeship or	93.6	NCVER student outcomes survey

Table 62: Employment outcomes from apprenticeships, traineeships and

Type of education and training	Measure
Other TAFE courses	Employment status at the end of May of all persons w qualification from TAFE during the previous year (othe those who said their source of income while doing th was an apprenticeship or a traineeship) • May 1999 • May 2000
University undergraduates	Employment status at end April 1999 of those awarde degree or undergraduate diploma during the second h plus employment status at end October 1998 of those bachelor degree or undergraduate diploma during the Employment status at end April 2000 of those awarde degree or undergraduate diploma during the second h plus employment status at end October 1999 of those bachelor degree or undergraduate diploma during the

Sources: Unpublished data provided by the Department of Education, Training and Youth A
Graduate Careers Council of Australia and the National Centre for Vocational Education Re

new apprenticeships, other VET courses and university courses (cont.)

	Employment outcome (%)	Source of data
ho gained a r than e course		NCVER student outcomes survey and NCVER (2000d)
	72.8	
	73.4	
d a bachelor alf of 1998 awarded a first half of 1998	66.4	Graduate Careers Council of Australia graduates survey and NCVER (2000d)
d a bachelor alf of 1999 awarded a first half of 1999	67.0	

ffairs, the Department of Employment, Industrial Relations and Small Business, the
search; NCVER (2000d)

apprentices are those people who reported that they speak a language other than English. They were 24% less likely than other apprentices and trainees to have been in continuous employment six months after the completion of their TAFE course.

A critical issue is the employment outcomes of apprentices, trainees and new apprentices compared with those obtained by graduates from other forms of education and training. These are shown in table 62 (page 136). As already discussed, employment outcomes for new apprenticeships are in the order of 90–95% depending on which measure is used. By comparison, only just over three-quarters of all graduates from TAFE courses were employed, and only two-thirds of graduates awarded bachelor degrees or undergraduate diplomas had gained employment after graduation.

The immediate employment outcomes from new apprenticeships, irrespective of whether the training is completed through the apprenticeship or traineeship mode, are significantly better than those gained from general study through a TAFE or undergraduate university course.

However, we need to be clear that we are not comparing like with like. A completing new apprentice is employed at the commencement of training and at the completion of training in a job directly related to that training. Thus, with new apprentices the employment outcome is the probability of *continuing* in employment.

By contrast, while many university students may be employed while they are studying, their courses are usually not related to any work they have. In these cases education and training is occurring largely in the institutional context. The employment outcomes here are about the probability of *entering* employment or of changing from casual employment to professional or career employment after graduation.

In the case of other TAFE graduates there is a mix. Some are employed in occupations directly related to their vocational studies, some are undertaking vocational studies to change their job but have definite jobs in mind, and some are like university students who will be seeking to enter career employment for the first time. Here employment outcomes are a mix of the probability of *entering* employment and *continuing* in employment.

Nevertheless, these comparisons serve to demonstrate to employers and trainees the value of education and training that is both highly relevant to and occurs within the context of the workplace. Retention in employment is very high indeed if the training occurred within an employment context.

This is borne out by reference to table 63. If we consider employment outcomes together with successful outcomes involving further study in some kind of education and training, then the extent of the differences between new apprenticeships, other TAFE courses and university courses is greatly reduced.

All modes of post-secondary education are producing total successful outcome rates near to or better than 90% for completing students or trainees. Many university graduates from bachelor degree and undergraduate programs are going on to postgraduate studies before entering career employment. Others take a break before entering such employment because of the long periods of continuous study they have just completed. Similar issues apply to full-time VET graduates. Moreover, graduation from a diploma is becoming an increasingly important direct pathway to a degree course for some VET graduates. Hence entry to the workforce is delayed in many of these cases.[21]

Table 63: Successful outcomes achieved by apprentices, trainees, new apprentices, other TAFE students and university students

Type of course completed	Employed	In further study	Total of successful outcomes
AQF qualification in:			
apprenticeships	95.7	1.1	96.8
traineeships	86.2	6.5	92.8
Total (new apprenticeships)	**93.6**	**2.3**	**95.9**
AQF qualification gained by other TAFE students	73.4	14.9	88.3
University graduate awarded a bachelor degree or undergraduate diploma	67.0	24.2	91.2

Sources: Derived from Graduate Careers Council of Australia and NCVER student outcomes survey 2000 data

8.2 New apprentice starting salaries

Available evidence from table 64 shows that the average starting salary of new apprentices was approximately $512 per week in 2000. This is the average gross weekly earnings of all those in full- or part-time employment in May 2000 who have gained a qualification during 1999 from completing a TAFE course in 1999 and who indicated they were in a new apprenticeship or traineeship while doing the course. Hence, in May 2000 they were either a recently completed new apprentice or were in the final stages of a new apprenticeship, having already finished the formal off-the-job component in TAFE.

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[21] A much more detailed analysis of graduate outcomes from the vocational education and training sector and the higher education sector is given in Ryan (2000). More statistical information about the relative employment and occupational outcomes of TAFE and university graduates is given in NCVER (2000d). More detailed information about the national VET student outcomes survey is contained in NCVER (2000e) and NCVER (2000f). Finally, more detailed material about apprentices and trainees from NCVER student outcomes surveys is given in appendix 1, tables 134 and 135.

Table 64: Average starting salaries of new apprentices

Measure of starting salary	$ per week
Average gross weekly earnings at end May 2000 of all persons who completed/gained a qualification from a TAFE course during 1999 and were in a new apprenticeship while doing the course	512
Average gross weekly earnings of first full-time job holders at end May 1999 (first full-time job holders in May 1999 who graduated from a TAFE course during 1998 and who were in a new apprenticeship while doing the course)	473

Sources: Derived from NCVER student outcomes survey 1999 and 2000 data

Another indication of average starting salaries is the average earnings of newly qualified apprentices who are *first full-time job holders*. In May 1999 their average gross weekly earnings were $473 per week (table 64).

There was, however, some considerable variation in new apprentice starting salaries. For instance, table 65 shows that almost 60% of people who undertook a TAFE course during 1999 as a new apprentice earned less than $500 per week in May 2000. Over 40% of such persons earned over $500 per week.

Table 65: The distribution of gross weekly earnings at end May 2000 of those who obtained a qualification while doing a TAFE course as a new apprentice in 1999

Level of gross weekly earnings of those in full- or part-time employment at end May 2000	Proportion of total (%)
Under $200	2.7
$200–$299	6.3
$300–$399	20.4
$400–$499	28.9
$500–$599	19.2
$600–$699	9.1
$700–$799	5.3
$800–$999	4.3
$1000 or more	3.8
Total	**100.0**

Source: Derived from NCVER student outcomes survey 2000 data

Not surprisingly, the higher the level of qualifications gained by new apprentices, the higher the starting salary. As shown in table 66, new apprentices gaining a diploma or advanced diploma from a TAFE course during 1999 had earned $700 per week in May 2000. Certificate IV qualifications led to average earnings of around $640 per week, and certificate III qualifications saw new apprentices earn an average of over $520 per week. Certificate I and II qualifications led to somewhat lower average weekly earnings of just over $400.

Table 66: Average gross weekly earnings at the end May 2000 of those who obtained a qualification from a TAFE course as a new apprentice during 1999 by qualification level

Level of qualification	Average gross weekly earnings from full- or part-time employment at end May 2000 ($)
Certificate I & II	407
Certificate III	522
Certificate IV	642
Diploma/advanced diploma	702
All qualification levels	512

Source: Derived from NCVER student outcomes survey 2000 data

There is also considerable variation in the starting salaries in the different occupations taken up by new apprentices.

The average gross weekly earnings of employed persons in May 2000 who had obtained a qualification from a TAFE course while doing a new apprenticeship during 1999 are shown in table 67 for each of the major occupational groups in the labour market.

Recently qualified new apprentices working in the intermediate production and transport occupations ($593) and in the professional occupations ($573) enjoyed the highest earnings. Next at just over $520 per week are those in the skilled trades ($530), managerial and administrative occupations ($524) and associate professionals and technicians ($522). The lowest earnings at just over $400 per week were for those in the intermediate and elementary clerical, sales and service worker occupations (table 67).

Table 67: Average gross weekly earnings at the end of May 2000 of those who obtained a qualification from a TAFE course as a new apprentice during 1999 by major occupational group

Occupational group	Average gross weekly earnings from full- and part-time employment at end May 2000 ($)
Managers & administrators	524
Professionals	573
Associate professionals	522
Tradespersons & related workers	530
Advanced clerical & service workers	466
Intermediate clerical, sales & service workers	405
Intermediate production & transport workers	593
Elementary clerical, sales & service workers	446
Labourers & related workers	515
All occupations	512

Source: Derived from NCVER student outcomes survey 2000 data

The average weekly earnings of *first full-time job holders* who have recently completed their new apprenticeships or are finishing the final stages of their new apprenticeships are compared with all graduates from TAFE courses or university graduates from degree or undergraduate diploma courses in table 68.

Table 68: Average weekly earnings of first full-time job holders in Australia, 1999

Occupation	Apprentices and trainees ($)	All TAFE graduates ($)	University graduates ($)
Managers & administrators	422	695	758
Professionals	571	640	650
Associate professionals	488	586	637
Tradespersons & related workers	483	455	–
Advanced clerical & service workers	428	425	588
Intermediate clerical, sales & service workers	394	423	529
Intermediate production & transport workers	491	487	560
Elementary clerical, sales & service workers	377	331	–
Labourers & related workers	406	412	–
All occupations	473	462	635

Source: NCVER (2000d); unpublished data from the NCVER

Starting salaries are significantly higher for new university graduates if they have a job. Some two-thirds of university graduates who gain employment do so in the managerial and professional occupations (see NCVER 2000d), which are generally the highest-paying areas of the labour market. The average starting salary for university graduates in their first full-time job was $635 per week in 1999 (table 68).

TAFE graduates generally and new apprentices who have recently gained their AQF qualifications are less specialised in their employment. Not surprisingly their starting salaries are somewhat less than those of university graduates. Recent graduates of TAFE courses who have just completed a new apprenticeship or are still finishing the final stages of a new apprenticeship contract of training have a slightly higher salary ($473) than recent TAFE graduates generally ($462), although the differences are minor. In both cases these are the gross salaries of persons indicating they are in their first full-time job.

The starting salaries for qualified new apprentices are highest if they are working in the intermediate production and transport occupations ($491), professional occupations ($571), associate professional occupations ($488) or in the skilled trades ($483). The lowest starting salaries for new apprentices were for those working in elementary clerical, sales and service occupations ($377), intermediate clerical, sales and service occupations ($394) or as labourers and related workers ($406). These are shown in table 68.

8.3 The longer-term career prospects of qualified apprentices

It is also important to try to assess the longer-term career prospects of apprentices and trainees when considering the outcomes of the system. It is too early to be able to assess the longer-term employment outcomes of completing new apprentices as the new apprenticeship system was only established early in 1998. Moreover, there is little available information about the longer-term career progression of people from traineeships. Thus the focus in this section is on what we can determine about the longer-term labour market prospects of apprentices. We can do this by examining the labour market experiences of people today who have gained skilled vocational qualifications through the apprenticeship system at some time in the past.

Overall employment prospects

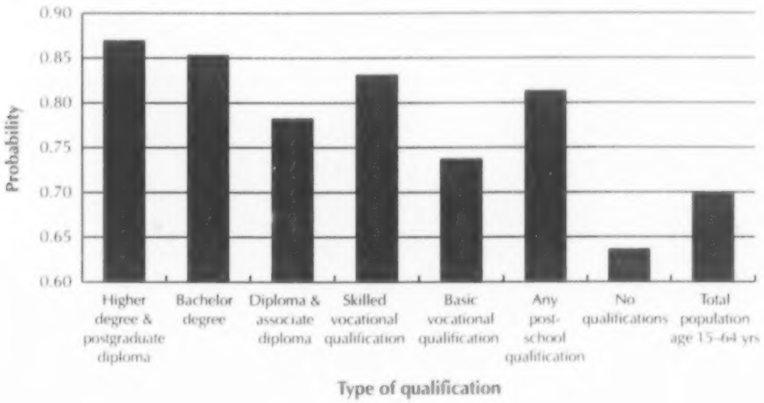
The overall probability of having a job is highest for people with university bachelor degree or higher qualifications (that is, higher degree such as a masters degree, a doctorate or postgraduate diploma). Some 87% of all people with university postgraduate qualifications in Australia are employed and some 85% of those with bachelor degrees are employed, as shown in figure 28 (page 144).

Only marginally lower is the probability of being employed with a skilled vocational qualification. Some 83% of all people in Australia with such qualifications are employed. Skilled vocational qualifications are typically gained through an apprenticeship, although they may involve institutional vocational programs equivalent to two years of full-time study. These qualifications are broadly equivalent to AQF certificate III and IV programs. The skilled vocational qualification, therefore, can be used as a proxy for an apprenticeship qualification as the majority of such qualifications would have been gained through the apprenticeship system.

People with skilled vocational qualifications have a much higher probability of employment than do the holders of other vocational qualification holders. Holders of basic vocational qualifications (broadly equivalent to AQF certificates I & II) have a less than 75% chance of having a job, and the holders of diploma and associate diploma qualifications (broadly equivalent to an AQF diploma or advanced diploma) have a less than 78% chance (figure 28). Those who hold a diploma may have gained it through a university (undergraduate diploma) or through a TAFE institute or other vocational education and training provider.

The employment probability falls to only 63.6% for people who have no post-school qualifications.

Figure 28: The probability of having a job by type of qualification, 2000



Source: ABS (2000b)

Further information about the employment outcomes of people with different types of qualifications is given in table 69. In terms of the proportion of the population who have employment, those who have gained apprentice qualifications (skilled vocational qualifications) have employment levels that are equal to those of university graduates and much better than those with any other types of qualifications or those who are not qualified. As shown in table 69, the employment population ratio was over 85% for those with degrees or higher university qualifications. Significantly it was 83% for those with skilled vocational qualifications, and under 80% for all other people, qualified or not.

Labour force status and the incidence of unemployment

Other indications of the long-term labour market prospects of qualified apprentices are given by considering the labour force status of persons with such qualifications compared to the rest of the Australian working-age population.

The labour force participation rate is an indicator of the strength of the attachment of different groups of people to the labour market. It measures the proportion of the working-age population who are in the labour force by way of being employed, or who are unemployed and are actively looking for work.

Table 69: Employment outcomes by type of qualification held, 2000*

Measure of employment outcomes	Highest level of post-scho			
	Higher degree & postgrad. diploma	Bachelor degree	Diploma & assoc. diploma	vo
Employment population ratio				
Proportion of working age (15–64 years) population employed (%)				
• full-time	71.7	69.0	57.8	
• part-time	15.2	16.3	20.4	
Total	**86.9**	**85.3**	**78.2**	
Total employment				
No. of persons employed ('000)	459.0	1242.4	814.3	1

Notes: * May 2000
Source: ABS (2000b)

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l qualification held			No post-school qualification	Still at school	Total population aged 15–64 years
killed cational qual.	Basic vocational qual.	Total with a post-school qual.			
74.1	50.8	65.1	44.6	0.3	51.2
9.0	22.9	16.2	19.0	33.2	18.6
83.1	**73.7**	**81.3**	**63.6**	**33.5**	**69.8**
18.8	771.3	4509.8	4089.8	228.8	8824.5

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Table 70: Labour force status of the working-age population by type of

Measure of employment outcomes	Highest level of post-scho		
	Higher degree & postgrad. diploma	Bachelor degree	Diploma & assoc. diploma
In the labour force			
Employment rate: Proportion employed (%)	97.1	97.0	95.0
Unemployment rate: Proportion unemployed (%)	2.9	3.0	5.0
Labour force participation rate: Proportion of population aged 15–64 years who are in the labour force (i.e. employed plus unemployed) (%)	89.6	88.0	82.3
Not in labour force			
Proportion not employed/ not unemployed (%)	10.4	12.0	17.7
Total working-age population	**100.0**	**100.0**	**100.0**

Note: * May 2000
Source: ABS (2000b)

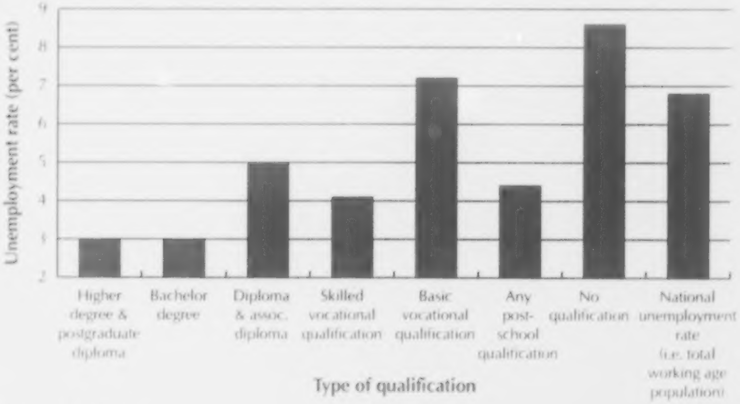
ualification held, 2000*

l qualification held			No post-school qualification	Still at school	Total population aged 15–64 years
Skilled cational qual.	Basic vocational qual.	Total with a post-school qual.			
95.9	92.7	95.6	91.4	81.7	93.2
4.1	7.2	4.4	8.6	18.3	6.8
86.6	79.4	85.1	69.6	41.0	74.8
13.4	20.6	14.9	30.4	59.0	25.2
100.0	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

As shown in table 70, the labour-force participation rates are high (over 85%) for those with university degrees or higher qualifications and for those with skilled vocational qualifications. Similarly, if they are in the labour force, these same groups have high employment rates and low unemployment rates. Again qualified apprentices have labour market outcomes that compare well with those who have university degrees or higher qualifications, and are generally better than for any other groups in the community.

The lowest unemployment rates are experienced by people who have a university degree or higher, with rates of only 3%. People with a skilled vocational qualification (qualified apprentices) have an unemployment rate of only 4%, far lower than for any other group, except for university graduates. People with diplomas and associate diplomas have an unemployment rate of 5% and those with a basic vocational qualification have an unemployment rate of over 7%. Finally, those with no qualifications have an unemployment rate of just under 9%, more than twice the unemployment rate of qualified apprentices. These unemployment rates are depicted in figure 29.

Figure 29: Unemployment rates by type of qualification, 2000



Source: ABS (2000b)

The unemployment rates vary even more for people working in specific occupations as shown in table 71. Unemployment is lowest in the higher skill occupations such as managers and administrators, professionals, and associate professionals. It is highest amongst labourers and related occupations and in the elementary clerical, sales and service occupations. As can be seen from table 71, unemployment rates also vary considerably between different specific occupations, within the same major occupational group.

Considering the skilled trades occupations, where so many qualified apprentices work, we can see substantial variation in unemployment rates. The electrical and electronic trades have by far the lowest unemployment

Table 71: Derived full-time unemployment rates for specific occupations, 2000

Occupation	Full-time unemployment rate May 2000 (%)
Managers & administrators	
Generalist managers	0.9
Specialist managers	1.3
Farmers & farm managers	0.0
Professionals	
Science, building & engineering professionals	2.0
Business & information professionals	2.5
Health professionals	0.5
Education professionals	2.5
Social arts & miscellaneous professionals	2.2
Associate professionals	
Science engineering & related associate professionals	3.5
Business & administration associate professionals	2.5
Managing supervisors – sales & service	2.8
Health & welfare associate professionals	1.9
Other associate professionals	1.0
Tradespersons & related workers	
Mechanical, fabrication & engineering tradespersons	3.5
Automotive tradespersons	4.6
Electrical & electronics tradespersons	2.6
Construction tradespersons	3.6
Food tradespersons	6.1
Skilled agricultural & horticultural tradespersons	3.6
Other tradespersons & related workers	4.1
Advanced clerical & service workers	
Secretaries & personal assistants	2.3
Other advanced clerical & service workers	3.5
Intermediate clerical, sales & service workers	
Intermediate clerical workers	3.1
Intermediate sales & related workers	2.5
Intermediate service workers	6.3
Intermediate production & transport workers	
Intermediate plant operators	5.0
Intermediate machine operators	5.2
Road & rail transport drivers	3.5
Other intermediate production & transport workers	5.7
Elementary clerical, sales & service workers	
Elementary clerical workers	4.2
Elementary sales workers	8.0
Elementary service workers	8.5
Labourers & related workers	
Cleaners	9.0
Factory labourers	7.0
Other related labourers & related workers	12.1
Total full-time unemployment rate of all occupations	**7.4**

Source: Experimental, derived on unpublished Australian Bureau of Statistics labour force survey data for May 2000 rates (2.6%). Next are a group of different trades including the mechanical, fabrication and engineering trades (3.5%), the construction trades (3.6%), and the skilled agricultural and horticultural occupations (3.6%). The automotive trades are next with 4.6%, still a comparatively low rate. Only the food trades with 6.1% experience a comparatively high unemployment rate, principally the result of the relatively high labour turnover in those industries.

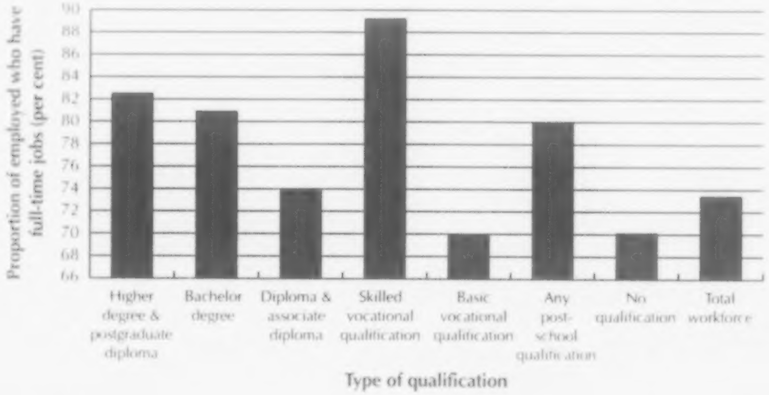
The quality of the employment outcomes

Gauging the quality of the jobs of different groups of people with different qualifications obtained is quite difficult.

One aspect of this issue is the extent to which people with different kinds of qualifications secure full-time employment. Qualified apprentices (and others with a skilled vocational qualification) enjoy by far the highest rate of full-time employment of any group in the workforce. Almost 90% of all employment they secure is full time, rather than part time. This is depicted in figure 30.

By contrast, just over 80% of the jobs held by university graduates with degrees or higher are full time. Fewer than three-quarters of the jobs held by people with diplomas or associate diplomas are full time. Only 70% of the jobs held by people with a basic vocational qualification or by people with no qualification are full time (figure 30). Clearly, apprenticeship qualifications are an excellent pathway to full-time employment in the Australian labour market.

Figure 30: Proportion of employed persons by type of qualification who have full-time jobs, 2000



Source: ABS (2000b)

Similarly, apprenticeship qualifications and other skilled vocational qualifications are also far superior to any other qualifications as a pathway to self-employment.

As shown in table 72, over 20% of people with skilled vocational qualifications are self-employed. This is more than twice the self-employment rate of university graduates with degree or higher qualifications, or of those with associate diplomas. It is almost twice the rate of those with undergraduate diplomas from university or the VET sector, and of those with a basic vocational qualification.

Table 72: The proportion of persons employed who are self-employed or are an employer by type of qualification held, 2000

Type of qualification	Proportion who are self-employed or are an employer (%)
Higher degree or postgraduate diploma	8.7
Bachelor degree	9.0
Undergraduate diploma	11.7
Associate diploma	9.2
Skilled vocational qualification	20.9
Basic vocational qualification	11.6
Total with post-school qualifications	**12.9**
No post-school qualifications	12.9
Total employed	**12.8**

Source: ABS (2000b)

An important issue in considering the longer-term career prospects of people with apprenticeship qualifications is the extent to which they have used those qualifications to move to different occupations, particularly to higher-skilled (and higher-paying) occupations.

The occupations held by people with different types of qualifications are described in table 73. Over half of all jobs in Australia are held by people with tertiary qualifications. As shown in table 73, some 23% of these qualifications are skilled vocational qualifications. These qualifications largely comprise apprenticeship qualifications in the skilled trades, although they also include some other similar qualifications obtained outside the apprenticeship system. Some 43% of all employed people with qualifications have other vocational qualifications.

Degree or higher-level qualifications are held by 30% of all employed persons with post-secondary qualifications, and the residual (2.7%) have some other kind of qualification.

Of the qualified workforce in the skilled trades occupations, 71.8% possess apprentice or equivalent skilled vocational qualifications. Most of the remaining qualified persons in these occupations have another vocational qualification such as a diploma or associate diploma or a basic vocational qualification.

Table 73: The occupations held by persons with university, apprenticeship and other vocational qualifications, 1997

Occupational group	**Highest level of qualifications obtained (%)**				
	Apprenticeship qualifications in the trades & other skilled vocational qualifications	Other vocational qualifications	University qualification (bachelor degree or higher)	Other qualifications	Total
Managers & administrators	20.7	38.1	39.9	1.3	100.0
Professionals	3.3	26.7	69.2	0.7	100.0
Associate professionals	25.6	49.5	22.2	2.7	100.0
Tradespersons & related workers	71.8	24.4	2.9	0.9	100.0
Advanced clerical & service workers	5.4	77.6	12.3	4.7	100.0
Intermediate clerical sales & service workers	14.0	64.9	16.7	4.4	100.0
Intermediate production & transport workers	44.1	44.3	7.6	4.0	100.0
Elementary clerical, sales & service workers	15.0	62.9	17.6	4.5	100.0
Labourers & related workers	31.8	55.9	6.2	6.1	100.0
All occupations	23.8	43.3	30.2	2.7	100.0

Source: ABS (1997)

Apprenticeship or equivalent qualifications are quite clearly a stepping stone to some higher-level occupations. Of qualified people in the managerial and administrative occupations, over 20% possess an apprenticeship or equivalent skilled vocational qualification. An even higher proportion of the qualified workforce in the associate professional and technician occupations (26%) hold an apprenticeship or equivalent skilled vocational qualification.

On the other hand, people holding apprenticeship or equivalent skilled vocational qualifications make up only a very small proportion of the qualified workforce in the professions in Australia, just 3.3%. The bulk of the qualified workforce in Australia's professional occupations have a university degree or higher qualifications, or diploma or advanced diploma qualifications (that is, over 90%).

Relatively small numbers of the qualified workforce in the clerical sales and service occupations possess an apprenticeship or equivalent skilled vocational qualification (less than 15%). Generally these occupations have lower skill requirements. By contrast, over 40% of the qualified workforce in the intermediate production and transport worker occupations hold an apprenticeship or skilled vocational qualification. Some but not most of these occupations would have skill requirements comparable with, or higher than those required in the skilled trades. However, there are some exceptions.

Finally, over 30% of the workforce with tertiary qualifications working as labourers or in related occupations hold apprenticeship or equivalent qualifications. Most, if not all, of these occupations have lower skill requirements than the skilled trades.

The information presented in table 73 suggests that apprenticeship and equivalent skilled vocational qualifications have become an important qualification in Australia's managerial and associate professional workforces. Many people who leave the skilled trades are doing so to advance within the field in which they originally trained, but are moving to higher positions of skill and/or responsibility. Their apprenticeship or equivalent qualifications appear to be of some real value in that process.

Almost 1.5 million people of the working-age population in Australia have an apprentice qualification or equivalent skilled vocational qualification. Around half of them who are in employment have been retained in skilled trades jobs, as shown in table 74. Almost 22% have moved to higher-skilled jobs in the managerial and administrative occupations (7%), the professions (4%) or the associate professional occupations (11%). The remainder were working in medium or lower-skilled occupations (table 74).

These results are consistent with those of other studies which look at so-called 'wastage' from the trades.

Webster et al. (2001), found that by age 30, almost half of those people in the 1961 cohort of the Australian Council of Educational Research longitudinal survey (ACER youth-in-transition panel survey) had left their trade, with a large proportion (23.4%) moving into higher-level jobs (managers and administrators [11.5%], professionals [3.1%] and para professionals [8.8%]). However, a relatively high proportion (24.2%) of people also moved to lower-level jobs, such as sales, clerical or labouring.

An analysis of 1996 census data for all persons aged 15 years and over with trade qualifications by the Department of Employment, Workplace Relations and Small Business (DEWRSB) (1999, p.7) showed that:

- 38% were working in a trade
- 35% were working in a non-trade occupation
- 5% were unemployed
- 21% were not in the labour force (that is, not employed or actively seeking work, which includes those who retire)

Table 74: Job destinations of employed persons with skilled vocational qualifications

Occupations of people who have a skilled vocational qualification	Proportion of employed persons with a skilled vocational qualification in May 2000 (%)	Proportion of all jobs in Australia
Retained in skilled trades employment or in related occupations	50.2	13.5
Moved to higher-skilled occupations[a]		
Managerial & administrative occupations	6.6	6.6
Professional occupations	4.0	18.5
Associate professional occupations	11.2	11.3
Total higher-skilled jobs	**21.8**	**36.4**
Moved to medium-skilled occupations[b]		
Advanced clerical & service occupations	0.9	4.2
Intermediate clerical, sales & service occupations	8.5	17.5
Total medium-skilled occupations	**9.4**	**21.7**
Moved to lower-skilled occupations[c]		
Intermediate production & transport occupations	8.9	9.0
Elementary clerical sales & service occupations	3.2	9.8
Labourers & related occupations	6.5	9.6
Total lower-skilled occupations	**18.6**	**28.4**
Total	**100.0**	**100.0**

Notes: (a) Higher-skilled occupations are defined here as those with more than 50% of the employed workforce holding post-school qualifications.
(b) Medium-skilled occupations are defined here as those with 40–50% of the employed workforce holding post-school qualifications.
(c) Lower-skilled occupations are defined here as those with less than 40% of the employed workforce having post-school qualifications.
Source: Derived from ABS (2000b)

The DEWRSB analysis of census data indicates that career progression was an important determinant of trade wastage. For instance, DEWRSB (1999, p.8) found that half of all tradespersons working in a non-trade occupation were employed in a more highly skilled occupation particularly as:

- building and construction managers
- shop managers
- chefs
- managers and administrators
- electronic engineering associate professionals
- building, architecture and surveying associate professionals
- production managers

For those working in a less skilled occupation, the major occupations of employment were:

- truck drivers
- sales assistants
- sales representatives
- cleaners

It is important to note that the notion of 'wastage' from the trades is a misnomer. Wastage is concerned with separation from the trades for reasons of job mobility, retirement or unemployment. Much wastage involves upwards job mobility, with many of those who leave moving to managerial or other similar positions within their trades industry. Hence, the term 'wastage' does not capture the real nature of this phenomenon.

This picture of separation from the trades has changed very little in overall terms since the late 1980s as shown in table 75. The rate of remaining in skilled trades employment if qualified as an apprentice (or in an equivalent skilled vocational qualification) has stayed at just over half of all those employed since 1989. Around 22% have taken up employment in higher-skilled positions and just over a quarter have moved to medium- or lower-skilled jobs. However, the proportion working as labourers has declined significantly since 1989.

Table 75: Retention in the trades or level of jobs held by trade-qualified persons/persons with skilled vocational qualifications, 1989, 1993 and 2000

Occupation	Proportion of persons with trade/skilled vocational qualifications who were employed (%)		
	1989	1993	2000
Retained in trades employment	52.6	51.4	50.2
Moved to higher-skilled occupations (managerial, professional & associate professional)	21.7	23.2	21.8
Moved to all other occupations (medium- or lower-skilled occupations)			
• clerical, sales & service occupations/ intermediate production and transport occupations	18.6	16.5	21.5
• labourers & related occupations	9.5	8.9	6.5
Sub total (moving to medium- or lower-skilled occupations	*25.7*	*25.4*	*28.0*
Total	**100.0**	**100.0**	**100.0**

Sources: ABS (1989, 1993, 2000b)

As discussed earlier, qualified tradespeople leave their trade for a number of reasons, the most common being to get a better job or a more interesting job.

Other reasons include short career paths and poor promotion opportunities within trade occupations. Only a minority leave because of the conditions of work or because of lack of work. Respondents to the Melbourne Institute omnibus survey conducted between October 1999 and August 2000 provided reasons why tradesmen leave their trade. The responses are detailed in table 76.

Table 76: Reasons why qualified tradespersons leave their trades, 1999–2000

Response	Tradespeople often leave their trade because …					
	… pay too low	… better job elsewhere	… work too difficult or dirty	… start own business	… little potential for promotion	… not enough work
Strongly agree	21.6	23.6	7.9	21.7	16.8	11.1
Agree	40.3	50.5	28.9	47.5	42.2	38.3
Neither agree nor disagree	5.8	5.0	6.8	8.3	7.7	7.8
Disagree	18.2	10.5	37.0	11.9	19.7	26.7
Strongly disagree	4.3	2.2	10.2	1.7	3.0	7.2
Weighted mean*	58.7	66.2	41.6	64.5	56.9	50.1

Notes: * Weighted average of 'strongly agree' by 100, 'agree' by 75, 'neither …' by 50, 'disagree' by 25, 'strongly disagree' by 0

Source: Webster, et al. (2001)

Notwithstanding the importance of demand-side factors, short career paths may be the main motivation for qualified tradespeople moving away from their trade. Short career paths occur when there is a levelling-off or decline in wages with age or experience. Webster et al. (2001) found that short career paths in the trades may be largely the result of employers employing 'unqualified' workers to perform trade tasks rather than offering higher wages to retain qualified workers. People facing a flat career path may be attracted to other jobs with comparable pay scales that offer more job variety, better working conditions or other non-pecuniary rewards. The lower trade wages are in relation to other wages, the more likely is trade attrition.

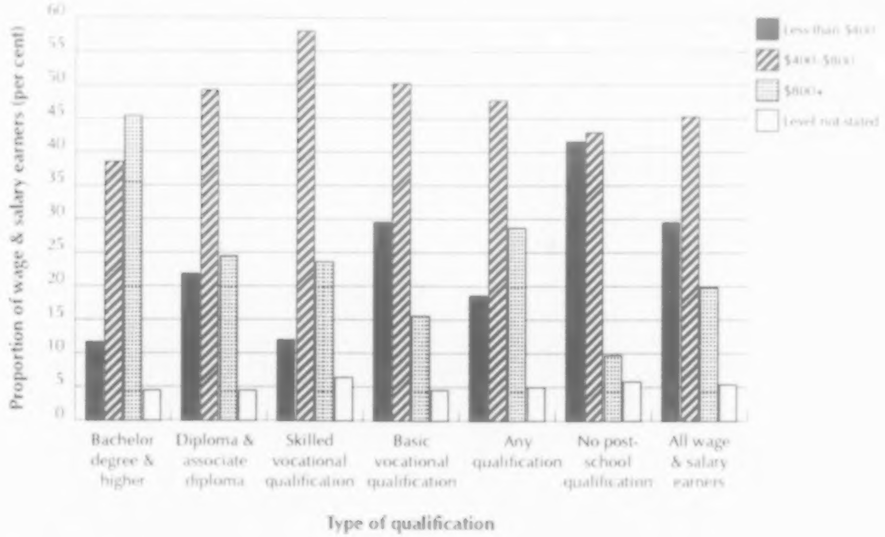
Webster et al. (2001), provides evidence that career paths for working tradesmen and trade-qualified men have flatter experience–earnings profiles than other categories of skilled labour. Based on an analysis of earnings reported in the 1996 census, Webster et al. (2001) found that men with a skilled vocational qualification had steeper experience–earnings profiles than trade-qualified men who remained working in their trade. Qualified tradesmen who had moved into managerial or administrative positions earn a significant premium over those who remain in trade classified jobs. They suggested that this may reflect the higher earnings of those operating their own businesses.

8.4 The earnings of qualified apprentices

A comparison of the earnings of qualified apprentices with those of people with other kinds of qualifications is the most pertinent indicator of the long-term pecuniary benefit from an apprenticeship.

The income distributions of people with different qualifications is illustrated in figure 31. More detail about these distributions is given in table 77. This information demonstrates the comparative high wage and salary earnings position of people with apprenticeship qualifications or equivalent skilled vocational qualifications. Fewer than 4% earned less than $400 per week in 1997, the lowest proportion of any group of wage and salary earners. Almost 60% of qualified apprentices (and equivalent) earned between $400 and $800 per week in 1997, a far higher proportion than any other group of wage and salary earners. Almost a quarter of qualified apprentices earned in excess of $800 per week in 1997. This is comparable with the proportions earning $800 per week or more in 1997 who had undergraduate diplomas and associate diplomas. However, it was somewhat less than the 45% of university graduates with degrees who earned incomes of at least $800 per week.

Figure 31: The usual weekly earnings of wage and salary earners by type of qualifications held, 1997



Source: ABS (1997)

Table 77: **The distribution of usual weekly earnings of wage and salary earners by type of qualifications, 1997**

Type of qualification	**Distribution of earnings (%)**					
	less than $200	$200 to $399	$400 to $799	$800 and over	Earnings not stated	Total
Higher degree & postgraduate diploma	3.0	5.4	28.5	59.8	3.3	100.0
Bachelor degree	4.7	8.6	43.5	38.2	5.0	100.0
Undergraduate diploma	6.9	16.9	47.3	24.8	4.2	100.0
Associate diploma	5.9	13.3	51.7	24.1	5.0	100.0
Skilled vocational qualification	3.7	8.3	58.0	23.6	6.4	100.0
Basic vocational qualification	9.4	20.1	50.2	15.6	4.6	100.0
Total with post-school qualification	**6.0**	**12.6**	**47.7**	**28.7**	**5.0**	**100.0**
No post-school qualification	20.2	21.4	42.9	9.7	5.8	100.0
All wage & salary earners	12.7	16.8	45.3	19.8	5.4	100.0

Source: Derived from ABS (1997)

The earnings distributions of males and females differ as shown in table 78. The earnings distributions for females who gained qualifications as apprentices (which until relatively recently normally meant gaining a hairdressing qualification) are more skewed to the lower end of the earnings scale than are the distributions for females with other qualifications. For instance, almost 60% of females with skilled vocational qualifications earned less than $400 per week. The corresponding proportion for females with bachelor degrees was 19%, diplomas 33% and even basic vocational qualifications 44%.

This means that while apprenticeships have delivered good outcomes in terms of gaining a job to those females undertaking them, the traditional apprenticeship system has not delivered the full income benefits that it has to males. Until very recently, female apprentices comprised only 10% of the total in the traditional apprenticeship system.

University graduates (with a bachelor degree) earned an average of just over $33 000 per year in 1997–98 as shown in table 79. Those with diplomas earned just under $25 000 per year. People with an apprenticeship qualification or other skilled vocational qualification earned an average of just under $21 000 per year in 1997–98. Those with a basic vocational qualification earned only just over $15 000 per year on average, and those with no qualifications earned only just over $12 000 per year in average earnings.

An indication of the extent to which apprenticeship qualifications have produced better-than-average earnings for their holders is also shown in table 79.

Those with apprenticeship qualifications (or equivalent) earn on average 16% more than average weekly earnings. Their average earnings are over 70% more than average earnings of all income earners who have no post-school qualifications.

Table 78: The distribution of usual weekly earnings of male and female wage and salary earners by type of qualifications held, 1997

Type of qualification	Distribution of usual weekly earnings (%)							
	less than $400		$400 to $799		$800 and over		Total*	
	Males	*Females*	*Males*	*Females*	*Males*	*Females*	*Males*	*Females*
Bachelor degree or higher	6.2	18.8	30.5	49.3	64.3	31.8	100.0	100.0
Diploma & associate diploma	8.7	33.0	48.3	53.9	43.0	13.1	100.0	100.0
Skilled vocational qualification	6.4	59.5	65.4	37.3	28.2	3.2	100.0	100.0
Basic vocational qualification	14.1	44.0	54.5	51.5	31.4	4.5	100.0	100.0
Total with post-school qualification	8.2	33.0	49.9	50.5	41.9	16.5	100.0	100.0
No post-school qualification	30.8	58.7	52.3	38.2	16.9	3.1	100.0	100.0
All wage & salary earners	18.6	45.3	51.0	44.6	30.4	10.1	100.0	100.0

Note: * Excludes those who usual weekly earnings were not stated.
Source: Derived from ABS (1997)

Table 79: Total average earnings of people with different qualifications, 1997–98

Type of qualification	Average weekly earnings ($)	Average annual earnings ($)	Premium in earnings over those with no post-school qualifications (%)
Higher degree	852	44 304	+261
Postgraduate diploma	876	45 552	+271
Bachelor degree	635	33 020	+169
Undergraduate diploma	466	24 232	+97
Associate diploma	478	24 856	+103
Apprenticeship & other skilled vocational qualifications	403	20 956	+71
Basic vocational qualifications	293	15 236	+24
No post-school qualifications	236	12 272	–
All persons	347	18 044	+47

Source: Unpublished data from the Australian Bureau of Statistics survey of income and training costs 1997–98

Some 85% of people with skilled trade qualifications are male and almost 90% of all persons who have such qualifications and are employed are actually employed on a full-time basis.

Thus the full-time earnings information, particularly for males shown in table 80 (page 160) gives a better indication of the true average earnings of most people with an apprenticeship qualification or other skilled vocational qualification: Males working full time with such qualifications averaged nearly $45 000 per year in 1997–98. In contrast, females with such qualifications and working full time averaged just under $28 000 per year. However, they are generally working in different and lower-paying occupations than males with similar level qualifications.

The information in table 80 serves to illustrate that earnings differences between persons with different occupations reflect an array of complex factors other than simply the holding of a different qualification. Differences in the age mix, the gender balance and the mix of full- and part-time work for each group contribute to the differences in earnings measured for those with different qualifications. This is illustrated by the fact that the premiums in average earnings for various qualifications over and above those who have no qualifications are much bigger for all earners (table 79) than if we control for the effects of gender and the extent of full-time employment (table 80).

Webster et al. (2001) provide support for the view that qualifications matter, but that the differences are less if we control for other differences in the structure of the employment that people with different qualifications have. They examined average income data from the 1996 census. As shown in table 81 (page 161), tradespersons in some different trades not only receive a premium for having a skilled trade qualification, but they receive a higher one for higher-level qualifications. However, a skilled trade qualification was not found to provide a premium if the holder was working out of the trade in an intermediate or elementary occupation.

Research conducted by Dockery and Norris (1996) estimates the internal return to apprenticeship training for males to be 46% when all trade occupations are considered. Lifetime incomes for males who completed an apprenticeship were estimated to be higher than for males with no post-school qualifications. However, when individual trades were examined there were some instances where tradespersons' incomes were less than those of unqualified workers. For instance, Dockery and Norris (1996) found that tradespersons' incomes were actually lower than unqualified persons in relation to gardeners, garment tradespersons and vehicle mechanics. Marks and Fleming (1998), using data from three of the youth-in-transition cohorts from the longitudinal surveys of Australian youth (LSAY), provide evidence of higher hourly earnings for young people who undertook an apprenticeship compared to young people who did not complete Year 12. Over the period 1980 to 1994, apprenticeships were associated with an initial earnings advantage for young people, which declined as the youth cohorts grew older.

Table 80: Full-time earnings of people with different qualifications, 1997–98

	Average weekly full-time earnings			
	Males ($)	Females ($)	Persons ($)	Males ($)
Higher degree	1 624	843	1 467	84 44
Postgraduate diploma	1 805	840	1 580	93 86
Bachelor degree	1 257	705	1 123	65 36
Undergraduate diploma	1 117	650	989	58 08
Associate diploma	1 059	522	951	55 06
Apprenticeship & other skilled vocational qualifications	863	532	835	44 87
Basic vocational qualifications	811	507	703	42 17
No post-school qualifications	777	480	724	40 40
All full-time earners	936	563	870	48 67

Source: Unpublished data from the Australian Bureau of Statistics survey of income and housing c

	Average annual full-time earnings		Premium in average full-time earnings of all persons with different qualifications over those with no post-school qualifications
	Females ($)	Persons ($)	(%)
3	43 836	76 284	+103
0	43 680	82 160	+118
4	36 660	58 396	+55
4	33 800	51 428	+37
3	27 144	49 452	+32
5	27 664	43 472	+15
2	26 364	36 556	-3
4	24 960	37 648	–
2	27 276	45 240	+20

osts 1997–98

Table 81: Average individual gross weekly income for male employees working in selected manual occupations by post-school qualification, Australia, 1996

Post-school qualification	Tradesmen in metal, building, electrical and vehicle $	Intermediate or elementary worker $
Bachelor degree and above	753.1	545.4
Associate & undergraduate diploma	715.4	541.2
Skilled vocational qualification	647.6	598.0
Basic vocational certificate	630.4	600.9
No post-school qualifications	540.0	516.1
N (number in the sample)	5076	7631

Source: Webster et al. (2001)

In conclusion, there are quite significant variations in the earnings of people working in different occupations who have apprenticeship qualifications. There is, however, considerable evidence overall that those who have apprentice qualifications or an equivalent skilled vocational qualification, irrespective of whether they are working in their original skilled trade occupation, do enjoy an earnings premium over the holders of other qualifications. The exception is university degree qualifications. People with university bachelor degrees or higher degrees are the best paid in the labour market. The key point is that those with apprenticeship qualifications or equivalent skilled vocational qualifications (that is, at certificate III and IV level or higher) are the next best paid group in the labour market. The premium they enjoy over those without any qualifications is substantial.[22]

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[22] Some additional statistical information about the employment outcomes and career prospects from apprenticeships, traineeships and new apprenticeships is given in appendix 1, tables 133–50.

9 Future directions for new apprenticeships

APPRENTICESHIP HAS PROVED to be the most resilient and durable form of training in Australia. It has evolved over the past 200 years to become the cornerstone of training for the skilled trades in Australia.

The past 20 years have seen profound changes to the structure of the Australian labour market, to the economy and to society itself. These changes have permeated all aspects of the way Australians work and the way they acquire skills for that work.

It should come as no surprise that our apprenticeship system has also undergone fundamental change during this period.

The mid-1980s witnessed a watershed for the apprenticeship system—the decision to introduce traineeships to complement the existing apprenticeship system following the recommendations of the Committee of Inquiry into Labour Market Programs (Kirby 1985). Kirby found that apprenticeships were concentrated in a relatively limited range of trade occupations, and were focussed almost exclusively on young males seeking employment and entry-level training in these occupations.

More recent reforms include the removal of age restrictions from apprenticeships, the introduction of competency-based training and training packages to apprenticeships and traineeships, the incorporation of apprenticeships and traineeships into the integrated Australian Qualifications Framework (AQF), the integration of apprenticeships and traineeships into a single new apprenticeship system, and the introduction of new flexibilities, including having a choice of registered training provider under the new apprenticeship system.

This report has documented some of the major changes which have occurred within Australia's apprenticeship and traineeship and new apprenticeships system, particularly in more recent years. Some of these have come about directly as a result of interventions in the apprenticeship system, but many changes have occurred 'naturally' as employers and the apprentices and trainees (and their families) have responded to the rapidly changing economic, social and cultural circumstances that affect them.

This chapter considers the overall impact of these trends, patterns and directions, and what they might mean for the future of new apprenticeships in Australia.

The feasibility and efficacy of these suggestions in terms of further roll-out of new apprenticeships into new areas will need to be tested by government in consultation with industry. Further consideration of incentive regimes, quantum of funding available, the pool of eligible candidates and provider capacity to respond to further expansion of new apprenticeships are some of the critical issues which remain to be examined. The analysis in this report aims to provide a starting point for such consultations and discussions rather than a blue print for action. Nevertheless the analysis undertaken provides compelling evidence for such action.

9.1 Continuing the 'roll-out' of new apprenticeships to all areas of the labour market

The transformation of Australia's apprenticeship system from one concentrated only in the skilled trades to one covering a much wider range of occupations, far from being a problem as suggested by some observers, has been crucial in bringing apprenticeship training arrangements into line with the changing structure of the Australian labour market.

The skilled trades now account for less than 14% of all the jobs in Australia, and their share of total employment has been declining slowly over the past 20 years. This fact provides a strong rationale for broadening the occupational base of apprenticeships to ensure that the desirable features of a sound training model is available in other sectors of the labour market. This trend of broadening the occupational coverage of apprenticeships across the labour market is also necessary to ensure that Australians can access a much wider range of opportunities for quality training arrangements similar to those which have operated so effectively in the skilled trades in Australia.

Clearly the unprecedented rate of growth in apprenticeships, traineeships and new apprenticeships cannot continue. Already there have been signs of a slowdown in new apprenticeships commencements. This will have an impact on the growth in new apprenticeships numbers. Overall, new apprenticeships numbers may stagnate or decline at certain times.

But there is nothing new in such a pattern. Apprenticeship numbers have always fluctuated according to the cycle of economic activity. Today's new apprenticeship system is no different in this regard.

However Australia's apprenticeship system is now double the size of the system in the early-to-mid-1990s. New apprentice numbers reached some

275 000 in 2000 but were less than 140 000 in the period 1993 to 1995. Even more important is the shift of the system from its narrow base of skilled trades just a few years ago to one of a wide range of occupations across all sectors of the labour market. While we can expect fluctuations in the demand for apprentices to follow economic cycles, we should not expect any persisting long-term downturn in new apprenticeship numbers.

We can expect, however, the further roll-out of new apprenticeships in all those occupations where the system now has a 'foothold', but where new apprenticeship numbers are still low.

This point can be illustrated by reference to box 5 on page 58. In the box the specific occupations which now have new apprenticeship arrangements in place (by having at least 50 new apprentices in 1999) are listed. Some 100 of those occupations have at least 50 new apprentices but the proportion of new apprentices falls below 10% of the total workforce (remembering that on average almost 12% of the skilled trades workforce are new apprentices).

By way of illustration, if all of the occupations in box 5 had 10% of the workforce in new apprenticeships, then there would be some 290 000 more new apprenticeships today than currently apply. This hypothetical scenario would mean a doubling of national new apprenticeships numbers to bring the total to some 580 000 new apprentices in Australia in the long term.

Clearly growth to these levels in all these occupations is most unlikely. Some of the occupations, such as the various farm manager occupations, drivers, some categories of labourers and some of the professional occupations, are unlikely to have new apprenticeships become such a widespread mode of training in the occupation.

Some occupations are not suited to new apprenticeships arrangements beyond some quite specific circumstances. Others have well-established alternatives to apprenticeships for skilling and learning.

Yet this discussion illustrates the fact that there is considerable potential for growth simply through the further roll-out of new apprenticeships in the occupations where some new apprenticeships arrangements already exist.

A more realistic assessment of the material in box 5 would entail extracting some of the occupations that currently have very small proportions of the workforce in new apprenticeships and are unlikely ever to become serious major new apprentice occupations. For instance, if we remove all of the occupations that only have 1% or less of their workforce in new apprenticeships from the calculation, then the additional potential for new apprenticeships is more likely to be in the order of 180 000. This assessment would mean a total of some 470 000 new apprenticeships could be possible in Australia in the long run. Even this assessment is, however, overly optimistic.

It is unlikely that all of the remaining occupations listed in box 5 will see their new apprenticeships numbers grow evenly to reach levels in the order of 10% of their workforces. Yet it may be quite possible that there is long-term potential for significant growth. Growth from the current level of 275 000 new apprenticeships to around 400 000 would appear to be quite possible or even likely in the long run.

This discussion is not meant to imply that growth in the new apprenticeship system will somehow occur easily or naturally. Growth is driven or constrained by the interaction of a range of complex factors, such as government policies, the supply of training opportunities and most important of all, the state of the economy. In earlier chapters of this report, it has been shown that the patterns of growth and decline in the overall numbers of apprenticeships and traineeships have historically followed economic cycles in the Australian economy. There appear to be only two exceptions to this in the last 30 years or so. The first was in the early-to-mid-1970s, when growth in apprenticeship numbers occurred against the cycle in response to the introduction of national employer incentive payments to encourage employers to take on more apprentices. The second would appear to be the last few years when growth in apprenticeship, traineeship and new apprenticeships numbers has outstripped what we might have expected from a modestly growing economy. This suggests that structural factors, such as the new flexibilities arising out of the training reforms of the last decade, including the introduction of new apprenticeships and the delayed and large roll-out of traineeships to 'non-traditional' occupations, have been more important than the effect of the economic cycle itself in the past few years.

New research highlights the overall importance of the economic cycle to apprenticeship and traineeship levels in Australia. Kapuscinksi (2000) reported preliminary findings of a model of entry-level training using data on the total number of contracts of training for entry-level trainees (that is, the total stock of apprentices and trainees at a given point in time) from 1968 to 1998. The evidence from the model points to the significant impact of business cycles on the employment of apprentices and trainees. Entry-level training falls with a rising unemployment rate and is positively related to both the vacancy rate and the employment–population ratio. These results demonstrate the importance of the state of the labour market on the growth of entry-level training.

Notwithstanding these arguments, there is scope to develop a more deliberate and strategic approach to the expansion of new apprenticeships to other areas of the labour market as discussed below.

9.2 Developing a more strategic approach to the expansion of new apprenticeships across the labour market

The above discussion serves to illustrate the potential for growth in Australia's apprenticeship system. However, a more strategic approach to the expansion of new apprenticeships will be needed if major new long-term gains are to be achieved in ensuring that the new apprenticeships system is applied fully to all those areas of the labour market that could benefit from apprenticeship training.

A more strategic approach, first and foremost, should encompass a more systematic analysis of new apprenticeship trends and patterns in the context of labour market developments to identify:

- the specific occupations which already have reasonably high levels of total employment and good prospects for growth, where new apprenticeships are currently available, but where numbers are well below the pro rata share of that occupation in total employment
- the specific occupations which already have reasonably high levels of total employment and good prospects for growth where new apprenticeships arrangements are not currently in place (or the numbers are very low), but would appear to be occupations highly suitable for the introduction of new apprenticeship-style training arrangements
- the specific occupations which already have reasonably large employment bases which are not growing, but where more new apprenticeships are needed in order to meet skill replacement needs
- potential future areas for new apprenticeships development in specific new and emerging occupations in the economy which currently have very small employment bases but which have great potential for significant growth in the near future

Such an analysis would be a sound basis for the development of policies and strategies that could be aimed at the different situations described above. Moreover, quite specific initiatives for facilitating the development or expansion of new apprenticeships in a particular occupation could be devised. This targetted approach would have the advantage of tailoring strategies for new apprenticeships growth quite directly to the particular circumstances applying in each occupation or sector.

In doing so, the composition of the labour market in terms of the mix of part-time and full-time employment needs to be taken into consideration as this may affect individuals' availability for training. Where they exist, education and training arrangements and pathways operating in such occupations should also be examined with a view to evaluating the benefits of new apprenticeships to add value from both an employer and employee view.

In the past, most policies and strategies have been system-wide in their nature, and have applied equally to all apprenticeships or traineeships. Of course, there have been some exceptions to this. Most notable have been the recent series of exercises led by Australia's main employer organisations and the national government to establish industry working groups (made up of industry representatives, government officials and other interested parties such as the National Centre for Vocational Education Research) to investigate skill shortages in a number of different skilled trade sectors in order to develop specific strategies and initiatives tailored to the issues in each occupational area. The strategies proposed to date are outlined in Engineering Working Group (2000) for the metal fabrication and engineering trades, Electrotechnology Working Group (2000) and Robinson (2000b) for the electrical and electronics trades, and in Victorian Automobile Chamber of Commerce (2000) and Borthwick et al. (2000) for the automotive trades. Further industry working groups are currently examining specific skill shortage issues in the building and construction industry, the food industries and some rural industries.

The system-wide policy approach remains very important for setting the generic policy parameters that need to apply to the new apprenticeships system as a whole. However, a 'one size fits all' approach was more suitable to the apprenticeship system when it was concentrated within the skilled trades. Today's new apprenticeship system encompasses hundreds of occupations across all areas of the labour market. Clearly some quite distinct and tailored strategies will also be required to identify and address the specific barriers that need to be overcome in order to develop and expand new apprenticeships in different occupations.

In the remainder of this section of the report we explore the potential for new apprenticeships growth in each major occupational group in Australia.

The substantial transformation to broaden the occupational base of apprenticeships and traineeships in Australia has only occurred since 1995. In that short time the system has expanded so rapidly in some areas of the labour market that new apprenticeships have a proportional share of total employment in these occupations. For instance:

- ❖ The clerical sales and service occupations cover nearly 32% of the jobs in Australia, and new apprenticeships in these occupations have now reached almost 30% of all new apprenticeships (from an almost non-existent base in the early 1990s).
- ❖ New apprenticeships in labourer and related occupations have now reached some 11% of all new apprenticeships and these occupations account for around 10% of all jobs in Australia.

Thus the clerical, sales and service, and labourer and related occupations, are now well covered by the new apprenticeship system, along with the skilled trades occupations.

Attention now should be directed to those areas of the labour market where new apprenticeships have not been taken up to the same extent *and* where the new apprenticeship approach could add value to the quality of skill formation arrangements.

There are a number of major occupational areas in the Australian labour market where the proportion of new apprenticeships falls well below the proportional level of employment in those areas. These are:

- managerial and administrative occupations with only 1% of all new apprenticeships but 7% of all jobs
- the professional occupations with less than 1% of all new apprenticeships but nearly 20% of Australia's jobs
- the associate professional and technician occupations with less than 3% of all new apprenticeships but over 10% of all jobs
- the intermediate production and transport occupations with some 9% of all jobs in Australia but only just over 4% of new apprenticeships

These are all areas of the labour market where a full pro rata share of all new apprenticeships in these occupations, in line with each occupational group's share in total employment, may not be possible or even desirable. However, the potential for new apprenticeships expansion in each of these occupational sectors should be explored in a systematic way so that specific strategies to encourage such expansion can be developed.

The development of selected 'management trainee' new apprenticeships

Managerial and administrative occupations involve a wide variety of positions across all industries. Currently, one-third of people in these jobs hold university qualifications. Some of the administrative occupations such as in the financial area have traditionally required professional rather than vocational qualifications, a pattern that will continue. Moreover, many managers are drawn from the professions, having professional qualifications and experience in the area they are managing. Finally, the growth of professional specialist management qualifications, such as MBAs, shows no sign of abating. Again this is a trend which will most likely continue. All this means is that university-level professional qualifications are certain to become more important, not less important, as requirements in Australia's managerial and administrative occupations.

Nevertheless, one-quarter of all those in the managerial and administrative positions have vocational qualifications (that is, 4.7% have associate diplomas, 13.7% have skilled vocational qualifications and 7.1% have basic vocational qualifications).

The proportion of current managers and administrators with vocational qualifications should also grow, especially considering that 40% of all current managers and administrators in Australia (that is, some 250 000 managers and administrators) still have no post-school qualifications whatsoever.

This means that while other avenues into managerial and administrative occupations will continue to be the most important ones, there is actually considerable scope to develop more managerial and administrative new apprenticeships beyond their current share of only 1% of all new apprenticeships. This translates to only 0.4% of Australia's some 635 000 managerial and administrative jobs currently being held by those in a new apprenticeship.

The implications of this are that trying to increase the numbers of new apprenticeships in managerial and administrative occupations to levels in line with the share of managerial and administrative jobs in total employment (that is, to 7% of all new apprenticeships) would not be sensible. Raising the penetration of new apprenticeships into the managerial and administrative occupations to perhaps 2% of all managerial and administrative jobs, would increase the number of managerial and administrative new apprenticeships from the current level of around 2800 to 12 500. An increase of this order of magnitude should be feasible.

A strategy to facilitate an increase of this order might involve examining all specific managerial and administrative occupations and systematically identifying those where scope exists to apply new apprenticeships. Those occupations that already have adequate professional pathways for entry should not be targetted for new apprenticeships; rather, those occupations where 'management trainee'-type arrangements apply or could apply should be targetted for the development of managerial and administrative new apprenticeships.

Forget the professions

The professional occupations are a large and growing area of the labour market, covering almost 1.7 million jobs or nearly one in five of all jobs in Australia. The professions include some of the best paid and most rewarding careers in the labour market.

Entry to the professions is essentially through degree qualifications and other university programs. Nearly 90% of all those working in the professions possess a post-school qualification. Most of these qualifications are university-gained bachelor degrees, higher degrees, postgraduate diplomas or specialist university undergraduate diplomas. Very few people with associate diplomas or other vocational qualifications are employed in the professions.

Currently new apprenticeships in the professions represent only 0.7% of all new apprenticeships. They are mainly in the para-professional areas of health, environment and education. Professional new apprenticeships currently make up only 0.1% of total employment in professional jobs in Australia, and it is difficult to see their having much application beyond some specialist and specific occupations within this area. Growth is likely to be fairly limited.

Thus the professional occupations should not be a major priority for future effort in the new apprenticeship system.

The associate professional occupations as the top priority for new apprenticeships growth

By contrast to the professions, the associate professional occupations should be the top priority for expansion of the new apprenticeships system in the future.

There are over one million associate professional jobs (which include technicians) in Australia, some 11% of all jobs in the nation. This is nearly as many as there are in the skilled trades. And these occupations are growing in importance in the labour market.

Over one-third of all associate professionals have a vocational qualification, whereas only just over 20% have a degree or other university qualification. Well over 40% of the associate professional workforce in Australia does not possess any post-school qualifications.

Despite this, new apprenticeships currently constitute only 0.7% of all employment in the associate professional occupations. This is despite the number of associate professional apprenticeships and traineeships having grown rapidly from just a few hundred in the early-to-mid-1990s to some 7500 new apprenticeships today.

Now that quality certificate IV and diploma level training is possible under the new apprenticeship system in addition to certificate III level programs, there is real scope to substantially expand new apprenticeships across the associate professional occupations.

It is also important to note that overall employment numbers in the associate professional occupations have been growing at almost twice the rate of employment growth in the trades. Associate professionals are now found in large numbers across Australian industry.

Apprenticeship-style training, which has proved itself to be so suitable for skill formation in the skilled trades occupations, is just as suitable in the associate professional occupations for much the same reasons. Technician training and training for the associate professional occupations in general lends itself to workplace instruction combined with high-quality theoretical and technical learning off the job.

Our future economic competitiveness will depend increasingly on higher-level skills. The quality of our skill-formation processes in ensuring that

Australia has technician and para-professional skills of the highest order will be particularly crucial in this process. The apprenticeship approach to training in this area should play a central role in converting the over 40% of the associate professional workforce, who have no qualifications, into a more highly skilled and technically qualified workforce.

Currently almost 12% of all of those employed in the skilled trades and related occupations are in new apprenticeships. As a long-term objective, Australia should pursue a similar level of apprenticeship-style skill-formation arrangements in the associate professional occupations. If 10% of the associate professional workforce were in new apprenticeships, then the number of associate professional new apprenticeships would be over 100 000 (not the 2700 we see today).

As a matter of priority, a nationally concerted effort is now needed to increase the numbers in associate professional new apprenticeships. This approach should encompass two steps. The first is to examine growth in all of those associate professional occupations where new apprenticeships currently exist, but where the numbers in such new apprenticeships are low. The second step is to take stock of all of those associate professional occupations where new apprenticeships are currently not available, and to develop and implement such new apprenticeships arrangements. Specific strategies and measures will be needed to develop new high-quality new apprenticeships arrangements for the full range of associate professional occupations.

Basically the approach being proposed here is to assess all associate professional occupations and to instigate a concerted national effort to introduce or further develop new apprenticeships arrangements across the board in the associate professions. However, some occupations have been identified by the National Centre for Vocational Education Research for initial attention in expanding new apprenticeships. They are shown in box 6. Those are occupations which already have new apprenticeship arrangements in place, but which have relatively low proportions of new apprenticeships in total employment.

Box 6: Occupations for associate professional new apprenticeship growth

3111 Medical technical officers, 3123 Electrical engineering associate professionals, 3122 Civil engineering associate professionals, 3291 Sports and recreational managers, 3294 Computing support associate professionals, 3492 Dental associate professionals, 3993 Sports person coaches and related support workers, 3293 Real estate associate professionals

They are occupations with good job prospects. The Department of Employment, Workplace Relations and Small Business has projected that the property and business services industry will be the fastest-growing industry in terms of job growth over the next five years. Cultural and recreational services (number 2), personal and other services (number 4), health and community services (number 5) and the education industry (number 7) are all projected to be Australia's top seven fastest-growing industries in terms of employment growth to 2005–06 (DEWRSB 2000). These industries in particular are some of the main employers of associate professionals.[23]

Specific jobs which are relevant here and which have been identified by DEWRSB as having very good job prospects to 2005–06 are computing and IT jobs (especially multi-media developers, systems designers/analysts, computer engineers, IT managers, systems administrators and programmers), health and related occupations, sports and fitness occupations (such as fitness instructors, sports persons, coaches and sporting officials), social welfare jobs (such as counsellors, social workers, welfare and community workers, hostel/refuge workers, aged care workers, disability care workers and child/youth care workers) and education workers (including those other than professional teachers).

There are some 100 000 jobs in the occupations listed in box 6. If new apprenticeships were to expand into these eight occupations alone, to a level of 10% of total employment, then new apprenticeships in these occupations would rise by over 6000 to over 10 000 in total.

However, the case for the extension of new apprenticeships into the associate professional areas cannot be made solely on the grounds of projected employment growth. The jobs must also be amenable to the apprenticeship form of training with its combination of off-the-job learning and real work experience. The success of the apprenticeship training in the skilled trades is predicated on the nature of the work in these trades. Competency in these jobs requires that apprentices learn the underlying theory of the occupation and are then given extensive opportunities to put the theory into practice by doing the job in a real world situation.

The rapid expansion of the new apprenticeship system into other fields demonstrates that there are many occupations outside the skilled trades that are amenable to apprenticeship-style training arrangements. Most associate professional jobs would also lend themselves to this form of training. Higher-level technician work in fields such as computing, medicine, sports, real estate and dentistry technicians bears a significant resemblance to the traditional skilled trades in that they require a base of theoretical understanding combined with substantial workplace practice. These associate professional occupations not only represent a new area of the labour market in which new apprenticeships can grow with employment, but also jobs in which the structure of work and the skills requirements suit the apprenticeship model of training.

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[23] More information about the outlook for training in these industries is also given in NCVER (1998a).

Recognising the special place of apprenticeships in the skilled trades

Contrary to popular belief, the expansion of Australia's apprenticeship system into the whole labour market has not been achieved through a reduction of apprenticeships in the trades. By opening up the system to areas of the labour market other than skilled trades, the share of the skilled trades in the total system is, by definition, going to fall. In fact the share of the trades in the total system fell from almost 94% in 1995 to just over 50% by 2000.

This trend has led some to mistakenly conclude that apprentice numbers in the trades have also fallen. Nothing could be further from the truth.

What is striking about the experience of the last five years is that such substantial change has been achieved without reducing trades apprenticeship numbers. In fact absolute numbers of apprenticeships/new apprenticeships in the trades have grown strongly from 120 000 in 1995 to some 140 000 by 2000. As mentioned earlier in the report, trade apprenticeship numbers have only exceeded the current level of almost 140 000 twice in our history—firstly, in the period 1980 to 1982, and then in the period, 1988 to 1992.

It is vitally important that the centrepiece of the Australian apprenticeship system continues to be apprenticeship training for the skilled trades.

The apprenticeship system has evolved over a long period of time. It is a system especially designed to provide intensive instruction relevant to the workplace requirements of the skilled trades. The system has evolved to the point where almost 12% of all jobs in the skilled trades (that is, some 1.2 million jobs in total) in Australia today are in new apprenticeships. This is by far the highest level of penetration of new apprenticeships in any occupational category.

Yet there is still room for further expansion and improvement. Referring back to box 5, there are some 32 skilled trade and related occupations that have well-established apprenticeship arrangements (that is, that have 50 or more new apprentices in training), but have levels of apprenticeship training far lower than the average rates of new apprentice training in the trades overall (that is, new apprenticeship levels at less than 10% of total employment levels in the trade). These occupations are listed in box 7. If all of these trades were to achieve new apprenticeships levels at 10% or better of their employment levels, then skilled trades new apprenticeships would be over 175 000, instead of their current level of just under 140 000.

Apart from the professional occupations, the skilled trades employ by far the lowest level of unqualified people in the workforce. Yet just over one-third of people working in the skilled trades have no formal post-school qualifications (compared with almost 50% for the whole workforce).

This means that there is still considerable capacity for the further expansion of new apprenticeships in the skilled trades. The pressure for this is likely to increase as the technical skill requirements in trades increase in the future.

Box 7: Occupations for skilled trades new apprenticeship growth

Mechanical and fabrication engineering trades
4113 Toolmakers, 4122 Structural steel and welding tradespersons, 4124 Sheetmetal tradespersons, 4112 Metal fitters and machinists, 4115 Precision metal tradespersons, 4123 Forging tradespersons, 4114 Aircraft maintenance engineers

Electrical and electronics trades
4316 Communications tradespersons, 4315 Electrical and office equipment tradespersons, 4313 Electrical distribution tradespersons

Construction trades
4412 Fibrous plasterers, 4421 Painters and decorators, 4422 Signwriters, 4423 Floor finishers, 4414 Bricklayers, 4416 Wall and floor tilers and stonemasons

Agricultural and horticultural
4623 Gardeners, 4611 Farm overseers

Other trades
4941 Clothing tradespersons, 4943 Footwear tradespersons, 4942 Upholsterers and bedding tradespersons, 4954 Florists, 4913 Binders and finishers, 4911 Graphic pre-print tradespersons, 4912 Printing machinists and small offset printers 4914 Screen printers

Despite major restructuring, the manufacturing industry is still Australia's second largest industry in terms of total employment. DEWRSB notes that, contrary to popular perception, manufacturing employment has grown over the past five years, and it projects continuing modest overall growth over the next five years (DEWRSB 2000). More importantly, DEWRSB has identified a number of trades as having national skill shortages. These include metal machinist, toolmaker, fitter, metal fabrication, welder, sheetmetal worker, motor mechanic, automotive electrician, panel beater, vehicle painter, refrigeration and air-conditioning mechanic, carpenter and joiner, fibrous plasterer, bricklayer, solid plasterer, chef, pastry cook, wood machinist, cabinet maker, hairdresser and upholsterer (DEWRSB 2000, p.6).

While trades employment generally is now only growing at a modest rate, skills demand remains strong for many trades due to some skills shortages and the need to replace trades skills arising from labour turnover.[34] The apprenticeship system as the main avenue for skill formation in the trades, remains the crucial element of any national skill formation strategy in these sectors.

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[34] More information about the outlook in the trades overall is given in NCVER (1998a) and in Engineering Working Group (2000) for the metal fabrication and engineering trades, Electrotechnology Working Group (2000) and Robinson (2000b) for the electrical and electronics trades, and in Victorian Automobile Chamber of Commerce (2000) and Borthwick et al. (2000) for the automotive trades.

The scope for more clerical, sales and service new apprenticeships

As mentioned earlier, clerical sales and service occupations have witnessed by far the fastest growth of any occupations in apprenticeship, traineeship and new apprenticeships numbers since the mid-1990s. These occupations account for nearly one-third of the workforce, and new apprenticeships in these occupations exceeded 30% of all new apprentices in 2000. Yet only 3% of all these jobs are held by new apprentices.

This situation might lead to the conclusion that clerical, sales and service new apprenticeships are now fully subscribed.

However, on closer examination, the National Centre for Vocational Education Research has concluded that, along with the skilled trades and the associate professional occupations, this is an area of the labour market where it is both possible and desirable for new apprenticeships to reach a level of coverage beyond the pro rata share of clerical, sales and service occupations in total employment.

Clearly the enormous expansion of the past five years demonstrates that apprenticeship, traineeship and new apprenticeships-style training is particularly suited to the clerical, sales and service occupations.

Retailing is Australia's largest industry in terms of employment, with over 1.3 million jobs. DEWRSB (2000, p.3) predicts that retailing will grow by over 2% per year to 2005–06. The personnel and other services industry is projected by DEWRSB to be in the top four fastest-growing industries in Australia over the next five years (DEWRSB 2000, p.3).[25]

DEWRSB has identified clerical and sales occupations as having high demand in the coming years because of both job turnover and strong overall employment growth (DEWRSB 2000, pp.4–5).

The NCVER has examined particular occupations which show potential for much greater new apprenticeships coverage than exists currently. These are listed in box 8. One occupation—sales assistant—is of particular interest. It is the biggest single occupation in Australia with over 550 000 employed. It is also the largest new apprenticeships occupation with over 22 000 new apprentices in 2000. Yet only 4% of all sales assistants are new apprentices. If this coverage were to reach some 10% of all sales assistants, then sales assistant new apprenticeships would total over 55 000.

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[25] More information about the outlook for training in these industries is given in NCVER (1998a).

In total, the 16 occupations listed in box 8 accounted for over 45 000 new apprenticeships in 1999. This would rise to over 120 000 if all occupations listed in box 8 had 10% of their total employment in new apprenticeships.

Box 8: Occupations for clerical, sales and service new apprenticeship growth

Intermediate clerical sales and service occupations
6121 Keyboard operators, 6192 Library assistants, 6212 Motor vehicle and related product sales persons, 6213 Retail and checkout supervisors, 6231 Hotel service supervisors, 6211 Sales representatives, 6397 Travel and tourism agents, 6396 Fitness instructors and related workers, 6323 Waiters, 6311 Education aids, 6312 Children's care workers, 6391 Dental assistants, 6313 Special care workers, 6314 Personal care and nursing attendants

Elementary clerical, sales and service occupations
8211 Sales assistants, 8294 Telemarketers

Selective targetting of new apprenticeships growth in the intermediate production and transport new apprenticeships

Although there are around 800 000 jobs in the intermediate production and transport occupations in Australia (or some 9% of the workforce), there were fewer than 12 000 new apprenticeships in these occupations in 2000. New apprenticeships represented only 1.5% of total employment in the intermediate production and transport occupations.

These categories cover occupations such as different kinds of machine and plant operators, storepersons, motor vehicle parts and accessories fitters on the intermediate production side. On the transport side they cover drivers, transport operators and delivery persons.

Superficially, enormous potential to expand the widespread coverage of new apprenticeships across the intermediate production and transport occupations seem to exist. If new apprenticeships coverage of the intermediate and transport occupations even reached 5%, then new apprentices numbers in these occupations would rise from some 12 000 to around 40 000. But there are a number of cautionary facts to note here.

Firstly, these occupations (along with labourers) have the highest proportions of the workforce with no formal qualifications. Over 70% of intermediate production and transport workers have no post-school qualifications. Many of the jobs do not require extensive structured training arrangements. Informal workplace training, particularly of new entrants, is more common.

Secondly, some of these occupations are quite specific and already have specialist industry-provided training arrangements for new entrants in place. This includes specific training arrangements to meet requirements to operate vehicles, plant or equipment in various plant and machinery operator and driving occupations. The potential to introduce or expand apprenticeship-style arrangements in many of these situations is somewhat limited, and may well be unnecessary or undesirable.

Finally, DEWRSB (2000 pp.14–23) in its 'job prospects matrix' reports most of the jobs in this occupational area as having limited or only average career prospects in transport. The main exception is taxi drivers and chauffeurs who already have training and licensing arrangements well in place. According to DEWRSB, most occupations in production and factory work have limited future employment growth prospects.

The evidence would suggest that a comprehensive roll-out of new apprenticeships in these occupations would be both unnecessary and unwise. An approach which selectively targets some very specific occupations where it can be clearly demonstrated that a new apprenticeship approach to skills acquisition is needed, would be much more appropriate here.

In some circumstances this might entail the development of specific and intensive new apprenticeships arrangements especially to meet particular higher-skill training needs in some of these occupations. Most of these situations are more likely to be in the various machine and plant operator occupations than in driver and transport occupations. In other cases it might mean smaller numbers across a wide range of occupations, basically to meet skills replacement needs as workers leave or retire.

Recognising that the roll-out into labourer occupations is now largely complete

As mentioned earlier, labourers and related occupations now constitute 11% of all apprenticeships and 10% of all jobs in Australia. Referring to box 5 on page 58 we can see that there are, however, a number of labouring occupations that have new apprenticeships arrangements in place. Yet the numbers fall well below 10% of total employment in each of those occupations. In total, only 3.5% of all labourer and related jobs are held by new apprentices. On closer inspection, however, NCVER investigation has revealed that there is very little scope to raise new apprenticeships numbers in many of those occupations to 10% of total employment. Put simply, the occupations do not have skill levels that require intensive apprenticeship-style training arrangements.

Moreover, DEWRSB (2000, pp.14–23) lists many of the labourer and related occupations as having very limited future growth prospects.

Nevertheless, there should be no limitation to new apprenticeships coverage of labourer and related occupations. However, the focus should be on those specific occupations where a clear case can be made for the required skill levels to justify the application of apprenticeship-style training. The NCVER concludes that a major expansion of new apprenticeship numbers in the labourer and related occupations is not warranted.

9.3 Further broadening the coverage of new apprenticeships to people of all ages

By 2000, the proportion of new apprentices who were 25 years of age or more had reached almost one-third. Moreover, the proportion of new apprenticeships commencements in this age group had reached nearly 40% by 2000.

The transformation of the Australian apprenticeship system from an exclusively entry-level training system aimed at school leavers to one which now caters for people of all ages has been profound. This change has occurred in response to the lifting in 1992 of age restrictions on apprenticeships and traineeships in Australia. As recently as 1995, only 7% of apprentices and trainees were aged 25 years and over.

Obviously, if a system that was once restricted to young people is opened up to all age groups, as has happened with apprenticeships in Australia, then the proportion of young people in that system must, by definition, fall. This is exactly what has happened in Australia, leading many observers to mistakenly view the increasing numbers of adults in apprenticeships with trepidation. The belief is that this has somehow occurred at the expense of young people.

However, this is incorrect. As we have shown in this report, the overall numbers of young people in new apprenticeships are at record levels in Australia. In 2000 there were nearly 190 000 young people under 25 years of age in new apprenticeships. Over 100 000 were teenagers. More pertinent is the fact that the proportion of all young people in Australia participating in apprenticeships and traineeships or new apprenticeships has been rising in recent years not falling. Today some 7.4% of all teenagers in Australia are in a new apprenticeship, whereas in 1995 only 5.7% of teenagers were in an apprenticeship or traineeship. The participation rate of young people aged 20 to 24 years has nearly doubled since 1995 to reach 6.3% in 2000.

The growth in the numbers of older people in Australian apprenticeships has *not* been achieved at the expense of young people's opportunities in the system.

Far from being a problem, this opening-up of apprenticeships to older people has been a very necessary development, and it should continue. The new apprenticeship system in Australia now better reflects the age structure of Australia's working-age population than at any other time in its history.

The structure of the Australian population is changing rapidly, and education and training systems need to adapt if the proper inflows of well-trained and skilled people are to be maintained.

In Australia 30 years ago nearly half of the population was under 25 years of age. This proportion has dropped to only 35% today, in line with declining birthrates and falling morbidity rates. Robinson (2000a) reported that the aging of the Australian population will occur at an even faster rate over the next 20 years if current trends continue (also see appendix 3). For instance:

> ❖ *The proportion of the population aged under 25 years will fall from 35% today to only 30% by 2020.*
>
> ❖ *The proportion in older age groups (45 years and over) will consequently rise from 34% to some 44% by 2020.* (p.9)

This means that the number of young people aged 15 to 24 years in Australia will remain at the current levels of around 2.7 million people over the next 20 years, even though the total population is forecast to grow by approximately 20% over this period.

By contrast, the number of people in Australia aged 45 to 64 years is forecast to grow by over 40% in the next two decades, from just over 4 million today to almost 5.8 million by 2020.

These trends are shown in table 82.

Table 82: Demographic trends and projections, Australia, 1970–2020

Age cohort	**Proportion of total population (%)**						
	Actual*				Projected		
	1970	*1980*	*1990*	*1999*	*1999–2000*	*2009–2010*	*2010–2020*
0–14 years	28.8	25.3	21.9	20.6	20.6	18.7	17.6
15–19 years	8.9	8.9	8.2	7.0	7.1	6.7	6.1
20–24 years	8.6	8.6	8.0	7.3	6.9	6.8	6.4
25–44 years	25.3	28.2	31.6	30.8	30.5	27.8	26.3
45–64 years	20.0	19.3	19.1	21.8	22.7	26.2	26.1
65 years and over	8.3	9.6	11.2	12.2	12.3	13.7	17.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number in population (million)	12.6	14.7	17.1	18.8	19.1	20.8	22.3

Note: * As at June of each year.
Sources: ABS (various issues); population projections obtained using the demographic model of the ECONTECH MM2 model

Robinson concluded that:

> *this dramatic shift in the structure of the Australian population means that Australia's education and training system needs to put as much focus on the learning needs of adults as it does on young people. Post-compulsory education and training policy needs to expand its 'sights' well beyond entry-level education*

> *and training and much more towards the learning/reskilling needs of older Australians. Of course, entry-level education and training will remain just as important in the future as it is today. The point is that an enhanced national skill formation system will be required, one which focusses on the learning and skills of the entire population.* (Robinson 2000a, pp.9–10)

Put simply, there is no choice but to continue with the recruitment of older people into Australian apprenticeships to ensure an adequate supply of skilled workers in the labour market, and if apprenticeships are to play an important role in that process nationally, then older people, of necessity, must continue to be significant players in the apprenticeship system.

The growth in adult participation in apprenticeships since the removal of age restrictions in 1992 has obviated the need for any specific policy measures to encourage more adults into the apprenticeship system.

This is an issue that will need to be reviewed as the population ages. Increased competition amongst different types of education and training institutions for 'clients' from a barely increasing pool of young people (including school leavers) will mean escalating difficulties in filling available education and training places from the ranks of the young. Employers will also experience growing difficulties over time in recruiting teenagers and people in their early twenties for available apprenticeships. If difficulties finding enough adults to fill them are also encountered, then some particular strategies to encourage more adults into apprenticeships may be needed in the future.

The other important age issue concerns changes in young people's employment, and the impact this has on the future direction of the apprenticeship system.

Two decades ago, over 50% of the teenage population were employed and most of these (over 80%) were employed full time; that is, in 1980 almost 680 000 teenagers were employed and over 530 000 of them were employed full time. For males, apprenticeship was a very significant component of that employment, with one-third of male school leavers gaining an apprenticeship at the beginning of the 1980s. At that time the labour market and the education and training experiences of teenagers in Australia were much more polarised. Teenagers either stayed at school or went on to university or TAFE as a full-time student *or* they left school to gain full-time employment (often through an apprenticeship if male) or to look for work. Part-time employment was much less prevalent and part-time education and training options were much less widely available than they are today.

By the time they reached their early twenties, young people in 1980 were typically employed, with over 90% who had work, being employed full time.

Nearly three-quarters of all 15 to 24-year-olds in 1980 were employed. Just over 7% were unemployed and just under 20% were not in the labour force. Most of this latter group were still full-time students or had left the labour force to raise families.

The situation for young people is very different today. Despite the fact that almost as many teenagers are employed in Australia today as were employed in 1980 (that is, nearly 660 000 in 2000 compared with nearly 680 000 in 1980), only a little over one-third are employed full time. As shown in table 83, over 50% of all employed teenagers are also full-time students still at school or studying in a tertiary institution. Of the employed 20 to 24-year-olds some 14% are also full-time students.

Table 83: The number of young people combining employment with full-time study at an education institution

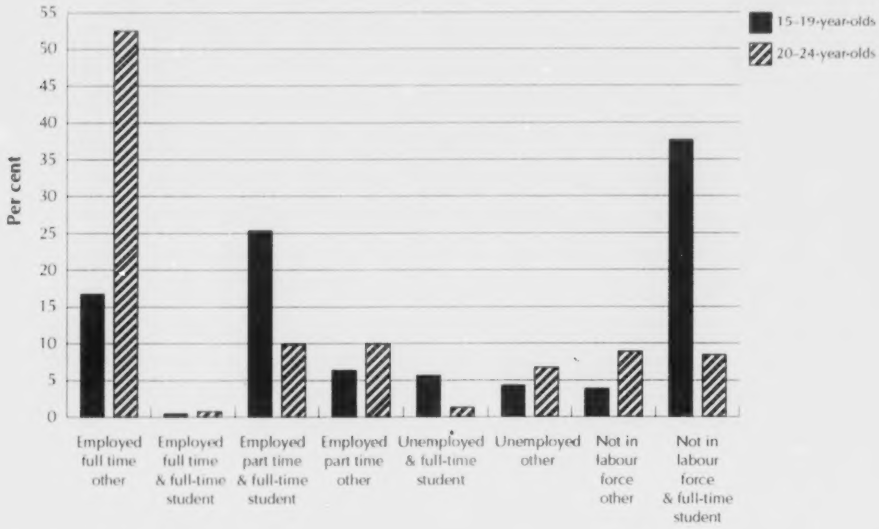
	Number of young people ('000)		
	Aged 15–19 years	Aged 20–24 years	Total 15–24 years
Employed full time and a full-time student	5.4	9.4	14.8
Employed part time and a full-time student	341.0	133.3	474.3
Total employed and a full-time student*	346.4	142.7	489.1
Other full-time employed	225.3	734.6	959.9
Other part-time employed	85.1	135.4	220.5
Total employed	**656.8**	**1012.7**	**1669.5**

Note: *Excludes new apprenticeships.
Source: ABS (2000a)

As shown in figure 32 (page 182), only a minority of teenagers today (37.6%) are full-time students who are not in the labour force. Only half of teenagers are studying full-time and not in the labour force or are employed full-time and are not students. By the time people get to their early twenties today, just over half are employed full time without being students. Most of the remainder are still studying full time and/or are being employed or are looking for work.

There are now almost 350 000 teenagers and over 140 000 young adults aged 20 to 24 years in Australia who are combining employment with some form of full-time education or training at a school or tertiary institution. This situation did not exist 15 or 20 years ago when traineeships were first introduced to provide new entry-level training options that combined work with relevant off-the-job instruction. Those traineeships were designed as an alternative to full-time employment or continuing in full-time education.

Figure 32: **Labour force status and full-time participation in education and training by people aged 15 to 24 years, 2000**



Source: ABS (2000a)

There are now almost half a million young Australians who are combining work with significant study outside the new apprenticeship system. Much of this work is in the casual tourism and hospitality, retailing and labouring areas of the labour market—in areas of lower job skill requirements. Frequently, the work being done by these young people has no direct relevance to their full-time study. The implication of all this is that there would be only limited demand from teenagers and other young people for additional new apprenticeships places arising from any major expansion of the new apprenticeships system in the lower-skilled end of the labour market. In an unforeseen and informal way young people have already devised alternatives which combine work in these occupations with full-time study.

9.4 Ensuring access for all in new apprenticeships

The transformation, in a few short years, of Australia's apprenticeship system from one catering only for young males, to one that caters for all groups of Australians has been remarkable.

On the issue of gender, it would have been untenable to have continued with an apprenticeship system that was as gender-biased as was Australia's apprenticeship and traineeship system of the early 1990s. Gender equity principles and the nature of female participation across the labour market, means that we need an apprenticeship training system that is open equally to females and males.

Despite the dramatic improvements in recent years, more progress is needed to eliminate gender inequality in new apprenticeships. Females still constitute just over 30% of all new apprentices today, but females make up nearly 45% of Australia's employed workforce. Female participation below this 45% level is simply unsustainable in the long run.

A new approach to raising female participation in new apprenticeships is needed. A long history of initiatives and promotional campaigns to encourage females into the traditional skilled trades over the 1970s, 1980s and even the early 1990s proved ineffective. Female participation has always been low in the apprenticeships in Australia: the rate had only reached 10% by the early 1980s and 12.8% by 1994.

The experience of the last five years suggests that an approach based on further expansion of new apprenticeships into occupations with reasonable levels of female participation is the only one likely to be successful. Occupations with higher levels of female participation which could be suitable for new apprenticeships need to be identified. New strategies to extend new apprenticeships into these occupations in a more systematic way are now needed.

The apprenticeship and traineeship system, and the new apprenticeships system have performed rather better in relation to Indigenous people. In overall terms, participation by Indigenous people in new apprenticeships is now at levels commensurate with their overall proportion of the Australian population. However, more needs to be done to devise strategies to improve Indigenous participation in new apprenticeships leading to higher-level qualifications.

As described in chapter 6, the new apprenticeship system is now catering more effectively for the 2.3% of the population who reported a disability, but who also reported that it involved no debilitating restriction in core activities, such as communication, mobility and self-care and/or no restriction impeding the ability to undertake education and/or employment. Participation in new apprenticeships by people with a disability reached 2% in the past two years. People with more severe disabilities, a further 14% of the population, are gaining little access to new apprenticeships.

More work is needed in devising new strategies which could improve the access of people with more severe disabilities to new apprenticeships. This will require innovative and very specific strategies to meet the very specific needs of different people within this group.

The situation concerning the overall access of people from non-English-speaking backgrounds is not as satisfactory. Only 7% of new apprentices are from non-English-speaking backgrounds, in terms of the main language spoken at home being a language other than English, yet over 14% of all people in Australia are from such backgrounds. More detailed investigation of this issue is necessary. There is not yet a real understanding of why this poorer access exists with apprenticeships.

Finally, the evidence presented in this report suggests that there is now no widespread access problem for people from rural and remote areas in the new apprenticeship system. In 2000, people from rural and remote areas accounted for 32% of new apprenticeships, but were less than 28% of the working-age population. It may well be that the additional employer incentives applying to rural and regional new apprenticeships have had an impact on this situation.

People living in metropolitan areas, other than in capital cities, are proportionately represented in the new apprenticeship system. The regions where new apprenticeships are now under-represented are Australia's capital cities. Two-thirds of the working-age population live in a capital city, but under 60% of new apprentices do. Recent research conducted as part of this analysis of the apprenticeship system suggests that new measures directed at the lower socio-economic areas within capital cities will be required if this situation is to be rectified (see Dumbrell et al. 2001; Demediuk et al. 2001).

10 The apprenticeship concept: Rethinking for the new century

The Australian apprenticeship system has shown itself over a long period of time to be a most effective mechanism for both skills training and facilitating transition to the workforce from schooling. By and large, it has served both Australian industry and apprentices themselves well.

The system remained focussed on entry to the skilled trades, mainly for young males, throughout most of the past century. The impact of the establishment of traineeships in the 1980s has been both crucial and belated. It is only since the mid-1990s that apprenticeships have been extended to other occupations in the labour market.

Other more recent reforms have also been important. These include:

- the removal of age restrictions from apprenticeships and traineeships in 1992
- the introduction of competency-based training and assessment and training packages to the apprenticeship and traineeship system
- the integration of trade certificate and skilled vocational qualifications into the Australian Qualifications Framework covering all education and training qualifications from senior secondary through to university qualifications
- the establishment of an integrated new apprenticeship system in 1998 encompassing both apprenticeships and traineeships, and introducing a system of user choice of training provider and other flexibilities in the way training can be undertaken

This report has demonstrated that the reforms introduced over the past 15 years (since the introduction of traineeships) have been both essential and effective. The transformation of the system in just a few years since the mid-1990s has been enormous. The changes in the apprenticeship system have largely been due to the belated impact of traineeships, the various reforms introduced since the late 1980s, the impact of the NETTFORCE initiative to increase traineeships take-up and to the establishment of new apprenticeships in 1998.

The key question that now needs to be asked is whether the Australian apprenticeship system is sufficiently robust a model to meet the rapidly diversifying skill formation needs of the twenty-first century. From the evidence presented in this report, the answer is an undeniable yes. However, some further developments of the system are needed.

In particular, there are four important questions that need to be addressed to set the future direction of apprenticeship in Australia for the twenty-first century more clearly. These questions are:

- What is the appropriate balance between apprenticeships as a process of school-to-work transition for young people and as a mechanism for skilling people for the workforce?
- Should apprenticeships be concerned with skilling people for any and every occupation in the labour market, irrespective of the skill levels required, or should apprenticeships be focussed on intermediate and higher-order skills?
- Should apprenticeships necessarily require a combination of formal off-the-job training and workplace instruction, or only encompass instruction fully undertaken in the workplace?
- Should apprenticeships be an integrated universal model of structured training irrespective of occupation, or should different models apply to different parts of the labour market?

10.1 A new kind of entry-level training concept for apprenticeships

Historically, apprenticeships in Australia have provided a first job for school leavers whereby they gained instruction in the skills required in that job. For instance, Kirby (1985) found that apprenticeships catered for around one-third of male school leavers and for 4% of female school leavers—15% of all school leavers.

Today there are many more school-to-work pathways than existed in the past. In particular young people are combining work with full-time study in many different ways apart from apprenticeships. Nevertheless, today there are:

- over 100 000 teenagers in new apprenticeships which represents almost 45% of teenage full-time employment
- almost 90 000 young people aged 20 to 24 years in new apprenticeships which constitutes 12% of their full-time employment

The importance of new apprenticeships as a pathway for young people in making the transition from school to work has not only remained intact, but its relative importance in entry to full-time employment for young people is increasing. Nearly one in two young people who enter full-time employment in Australia today enter through a new apprenticeship.

Yet it is also important that apprenticeships more broadly cover the issue of entry-level training to a wide range of occupations, no matter what stage of the life cycle of the learner. The concept of entry-level training for the workforce at the 'front end' of one's working life remains crucial, but is very clearly no longer sufficient to adequately prepare people for work in the twenty-first century.

Robinson (2000a) summed this up by noting:

> *the unparalleled changes that have occurred in recent years mean that a continuing focus only on the preparation of young people for entry to the workforce as the keystone of post-compulsory education and training will no longer be sufficient. There are two reasons for this. They are:*
>
> - *First, on the demand side, technological change and other changes stemming from globalisation of economies around the world are now having a profound impact on the nature of work, the way it is organised and the skills it requires. These changes are now so rapid that people cannot expect to be working in the same areas even for a part of their working lifetimes. Many specific skills now have a very short 'half life'.*
> - *Second, on the supply side, the workforces of most countries, including those of Australia, are aging. There will be relatively fewer young people entering the workforce than in the past. Skill formation policies will therefore need to be more heavily focussed on the adult workforce than in the past, and include reskilling older workers. Continuous learning is required.*
>
> (Robinson 2000a, p.v)

Clearly the issues of continuous learning and skilling over a working lifetime, or lifelong learning, are now paramount. In this context the notion of a job or career for life is now outmoded. Throughout their working lives people will experience several different careers and occupations.

The Australian apprenticeship system must be robust enough to cope with these enormous changes in the way work is organised and who the learners are.

This is not to say, however, that the apprenticeship system should simply evolve into a continuous or lifelong learning skills-formation program. Rather, apprenticeship should be focussed on those situations where intensive and prolonged skilling for entry to a new occupation is needed, regardless of when this occurs over an individual's working lifetime.

This broader concept of entry-level training should govern apprenticeships in Australia in the new century. Other mechanisms will be needed to cope with the broader ongoing skilling and skills upgrading requirements of the workforce.

Australia has already made significant progress towards this approach since the removal in 1992 of age restrictions from apprenticeships and traineeships. One-third of new apprenticeships are now taken up by people over 25 years of age.

This is a striking difference between the Australian system and those of most overseas countries. The highly successful dual systems of Germany, Austria and Switzerland, for example, are still almost exclusively focussed on school leavers. However, the skilling requirements of the twenty-first century necessitate the application of a broader concept of entry-level training.

Thus, the concept of apprenticeships for Australia should be first and foremost concerned with skilling people for entry to an occupation. Entry-level employment and training of young people is a very important issue. However this notion should no longer drive the development of the apprenticeship system in Australia.

10.2 A focus in apprenticeships on intermediate and higher order work skills

There are some who believe that apprenticeships should only be focussed on the technical skills required for the skilled trades occupations. This has traditionally been the case in the apprenticeship system in Australia. This would result in a conceptually compact apprenticeship system covering less than 15% of the jobs in the Australian labour market.

Yet at the other end of the spectrum, it is clear that apprenticeship-style arrangements (in the form of traineeships) have been applied at a lower level to some work situations where formal skilling requirements are of a low order. With the abolition of employer incentives, certificate I level programs have now almost disappeared from the new apprenticeship 'landscape'.

This question may be considered in the context of the analysis contained in this report. It is proposed therefore, that the following principles should apply to the future operation of apprenticeships in Australia.

- First, *the apprenticeship system should not be restricted to specific occupational groups such as the skilled trades*. Apprenticeships should apply across all occupational categories of the labour market and become a broadly based entry-level skills formation system for Australia.
- Second, apprenticeships should, however, not necessarily apply to every single occupation in Australia. New apprenticeships arrangements ought to apply to all occupations where skill formation both requires, and would benefit from the application of the apprenticeship approach. *Apprenticeships should not apply to situations where little or no training is required to carry out jobs requiring very low skill levels.*
- Third, apprenticeships should apply broadly across different skill levels in the labour market, rather than only at the trade certificate/skilled vocational qualification level (that is, equivalent to AQF certificate III), the situation which formerly prevailed. Apprenticeships should apply to

certificate II, III and IV levels, as well as to diploma and advanced diploma levels. Certificate I-level programs should be eliminated from the apprenticeship system.

Also, concerns about the quality of training provided in apprenticeships and traineeships need to be addressed. As Cully and Curtain (2001) point out, a poor quality of training, while it may not be the reason for the apprentice or trainee leaving their training program, is the experience of some non-completors. It is clear that systems need to be put in place which ensure that apprentices and trainees have a training plan which details the expectations of both apprentices and employers and which is the subject of regular review by both parties. Registered training organisations have an important role to play in the structuring of training in the workplace and in monitoring the achievement of the objectives of training plans. In short, a greater emphasis needs to be placed on quality assurance in training by all parties in the future.

A broad-based coverage of the apprenticeship system, in terms of a wide range of occupations and vocational qualification levels, is both necessary and desirable. Nevertheless, there does need to be a resolution of whether skill formation requires an apprenticeship arrangement. Certificate I-level programs and jobs requiring only minimal instruction should be eliminated from the system.

The future emphasis should be on quality skill formation for the growing number of occupations requiring intermediate and higher-level skills.

10.3 Ensuring high quality and relevant skill formation in apprenticeships

The issue of the quality of some of the training occurring in apprenticeships, traineeships and new apprenticeships has been called into question in recent years. A series of reviews in some States (for example, Schofield 1999a, 1999b, 2000) have questioned the efficacy of on-the-job training in providing adequate training for the new apprenticeship system.

This issue has been highlighted by the recent recommendation of the Senate Employment, Workplace Relations, Small Business and Education Reference Committee who proposed that Commonwealth government funds not be made available for fully on-the-job apprenticeships and traineeships (Senate Employment, Workplace Relations, Small Business and Education Reference Committee 2000, p.194).

Recent research referred to in chapter 7, also suggests that a small but significant number of apprentices and trainees do not receive any training or, more specifically, do not perceive that they have received any training in the workplace context. It is important to note, however, that many of these are non-completors who left in the initial period of their apprenticeship or traineeship contract, prior to the commencement of the actual formal off-the-job component.

Historically, apprenticeships were undertaken entirely on the job as reported by Ray (2001, p.31). The capacity for employers to offer contracts of training completely on the job was reintroduced as part of the NETTFORCE initiatives during 1994 and 1995.

Ray goes on to point out that, at the other end of the spectrum, fully institutionalised apprenticeship training failed to materialise because of a lack of support from the industrial parties (both employers and unions). A major Commonwealth–State report (COSAC 1984) recognised the potential of institutionalised trade training, but did not pursue such an approach because of perceived practical difficulties. Clearly institutionalised training undermined the importance of instruction in the workplace as the cornerstone of apprenticeships.

For most of the post-Second World War period an approach involving both formal off-the-job and workplace instruction has been favoured by the industrial parties and governments.

Yet the real issue is not whether apprenticeships should be a combination of on-the-job and off-the-job training or 100% on-the-job training. The critical question is what kinds of skills should apprenticeships be covering and what are the best way(s) to provide the required skills training.

The workplace of the future will place a larger premium on higher-order skills than it does today. Labouring and other jobs with very low-level skills are becoming less prevalent in the labour market. The long-term requirement will involve all workers having a more sophisticated set of skills ranging from higher-order technical skills to the other key non-technical work skills that are now becoming important in so many jobs.

Much has been written about the impact of globalisation and information technology on the way work is organised and what it means for skilling processes. The media now refers to an 'old economy–new economy' dichotomy.[26]

Sheldrake (1997) argued that, at the very least, crucial work skills for the future might include:

- *considerably enhanced people skills, especially in team leadership, communication, enabling, consulting with others and coaching*
- *strategic skills in developing businesses that take account of the increasing importance of knowledge as a factor (the factor) in competitive success*

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[26] A body of relatively recent Australian literature that explores these issues, especially in relation to the provision of vocational education and training, includes Hall et al. (2000), Hobart (1999), Kearns (1999), McKenzie (1998), Maglen (1994), Maglen and Shah (1999), Marginson (2000), Robinson (2000a), Sheldrake (1997) and Waterhouse et al. (1999).

- *conceptual skills, particularly those that enhance the ability to see issues from a variety of viewpoints, manage ambiguity and understand the complexities of other cultures' values and priorities*
- *the ability to empower others, to be able to manage through dialogue and interpersonal negotiation rather than through power and control*
- *the capacity to recognise that learning is an ongoing process, and to continuously rethink and re-examine approaches to work and other fundamental issues.* (Sheldrake 1997, p.6)

It is clear that the apprenticeship system needs to evolve in order to adequately deliver all of the skills required in contemporary workplaces. There can be no doubt that the complexity and breadth of the technical or para-professional skills involved in most jobs, and the more general work skills will require a greater diversity of provision, not less, in the future.

It is difficult to see that skill formation in all of these areas could be provided adequately only in the workplace. The capacity of enterprises to provide appropriate instruction in all required areas will be increasingly limited as the complexity of skill formation requirements increases over time.

However, this does *not* imply that apprenticeships should be restricted to a model encompassing both on- and off-the-job training. Some enterprises have developed their training programs to levels where off-the-job instruction is not necessary.

The approach needs to be one where the full range of required work skills, not just technical or para-professional skills, are incorporated into each apprenticeship program. Then appropriate means for delivering each part of that program needs to be devised.

10.4 The importance of an integrated apprenticeship system for Australia

Despite the establishment of an integrated new apprenticeship system at the national level in 1998, many facets of the previous apprenticeship and traineeship systems persist.

Many trades apprenticeships persist with four-year contracts of training involving three years of formal instruction for one day per week off the job. This is irrespective of different skill requirements in different situations. Many contracts of training are still labelled locally as traineeships. Different conditions and requirements still govern apprenticeships and traineeships in some parts of the country.

The rationale for introducing traineeships in the 1980s was sound. The traditional apprenticeship system was mainly restricted to the skilled trades. As a result, many groups of young Australians were missing out on worthwhile structured training opportunities.

Traineeships typically permitted shorter periods of structured training in a much wider range of occupations at all qualification levels, but usually at the certificate II level. Paradoxically, they also permitted more fulsome structured training programs at the certificate III and diploma/advanced diploma levels.

Nevertheless, it is clear from the variety of issues considered in this report that apprenticeships and traineeships have more similarities than differences in their basic concept.

Basically, the main differences now involve:

- the occupations covered—in terms of the traditional trades for apprenticeships and other occupations for traineeships
- the level of qualifications covered—being a certificate III or equivalent level (for apprenticeships) and all other levels of vocational AQF qualifications or equivalent (for traineeships)

The logic of continuing with an apprenticeship/traineeship distinction is lessening if the system applies to all occupational groups and to all qualification levels.

It is now time to put the traineeship concept 'to rest'.

Of course the term 'new apprenticeships' is not without its problems. New implies that there are old apprenticeships as well as new apprenticeships, like the terms 'old economy' and 'new economy'. And how long does a new apprenticeship remain new?

The point is that all apprenticeships need to be contemporary, modern and new. All apprenticeships need to encompass the latest developments in their area, and their content needs constant review to ensure that they are able to meet the contemporary and ever-changing skill needs of the modern workforce.

Perhaps the time has come to use the generic term 'apprenticeships'. Every training arrangement involving a contract of training with an employer should be an apprenticeship, part of a fully integrated system, irrespective of the actual occupation or industry in which the training occurs and irrespective of the level of qualification being sought.

Apprenticeships would lead to qualifications at various levels (except certificate I), these being:

- diploma and advanced diploma
- certificate IV
- certificate III
- certificate II

Apprenticeships would cover all areas of the labour market. They could, however, be classified according to major occupational groups and monitored according to their penetration in each of the main areas of the Australian labour market. The major occupation groups here could be:

- managerial, administrative and professional occupations (that is, ASCO codes 1 and 2 occupations) which cover 25% of all jobs in Australia
- associate professional occupations (that is, ASCO code 3 occupations) which cover 11% of all jobs
- skilled trades occupations (that is, ASCO code 4 occupations) covering just under 14% of all jobs
- clerical, sales and service occupations covering advanced, intermediate and elementary clerical, sales and service occupations (that is, ASCO code 5, 6 and 8 occupations) which make up almost 32% of the workforce
- production, transport and labouring occupations covering all intermediate production, transport, labourer and related occupations (that is, ASCO codes 7 and 9), some 19% of all jobs in Australia

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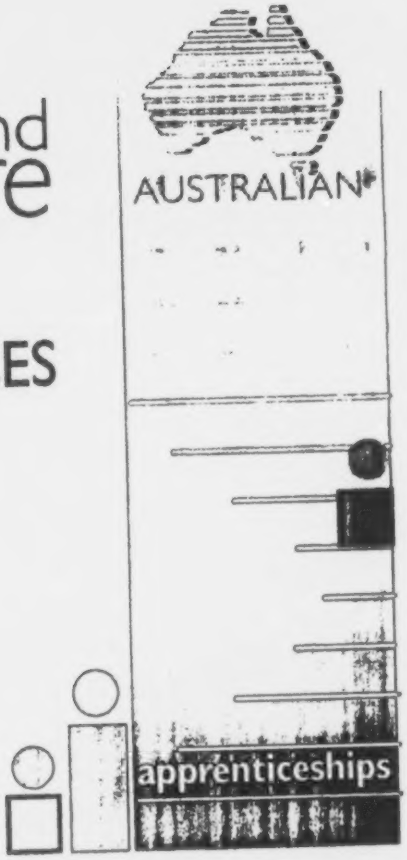
APPENDICES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Appendix 1: Apprentice, trainee and new apprentice statistics

The National Centre for Vocational Education Research publishes apprentice and trainee statistics on a quarterly and annual basis. The NCVER has been responsible for publishing national apprentice, trainee and new apprentice statistics since 1994. The statistics report all new apprenticeships since 1998.

These statistics are published in various editions of *Australian apprentice and trainee statistics.*

Revised and updated Australian apprentice and trainee statistics are also available on the NCVER website at www.ncver.edu.au.

The NCVER has also published historical time series statistics on apprenticeships, traineeships and new apprenticeships in various publications including:

- NCVER 2000, *Apprentices and trainees in Australia 1985 to 1999: At a glance*
- NCVER 1999, *Australian apprentices and trainees statistics: Trends 1995 to 1998*
- NCVER 1998, *Apprentices and trainees in Australia 1985 to 1997: At a glance*

The apprentice, trainee and new apprentice statistics used in this report (including in the tables in this appendix) are drawn from these sources and information available in NCVER's June 2000 New Apprenticeships Collection. Some minor discrepancies exist between the statistics used here and those that have previously been published. This is because all statistics used in this report have been revised and updated on the basis of the latest available apprentice and trainee data. It should also be noted that some of the figures may change slightly in subsequent collections due to the processing of late returns.

Apprenticeship statistics prior to 1994 were published by the various Commonwealth departments responsible for apprenticeship training at different times and by the NCVER in the early 1990s. These publications included:

- NCVER, *Apprenticeship statistics*
- Department of Employment and Industrial Relations, *Apprenticeship statistics*
- Department of Employment and Youth Affairs, *Apprenticeship statistics*

Prior to 1994, traineeship statistics were published separately from apprenticeship statistics by the particular Commonwealth department responsible for traineeships—at different times this being the Department of Employment and Industrial Relations, the Department of Employment and Youth Affairs and the Department of Employment, Education and Training. National traineeship statistical publications included:

- *Australian Traineeship System: Trainee commencements*
- *Australian Traineeship System: Quarterly performance report*

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Table 84: The number of apprentice, trainee[a] and new apprentice commencements, numbers in training and completions, 1970–2000

Year	No. of commencements[b] in 12 months ending 30 June ('000)			No. in training at 30 June ('000)			No. of completions in 12 months ending 30 June ('000)		
	Apprentices	Trainees	Total	Apprentices	Trainees	Total	Apprentices	Trainees[c]	Total
1970	32.1	–	32.1	103.8	–	103.8	26.4	–	26.4
1971	34.7	–	34.7	110.0	–	110.0	22.0	–	22.0
1972	32.6	–	32.6	113.0	–	113.0	24.7	–	24.7
1973	31.9	–	31.9	116.7	–	116.7	22.9	–	22.9
1974	42.4	–	42.4	131.4	–	131.4	22.2	–	22.2
1975	35.5	–	35.5	131.9	–	131.9	28.0	–	28.0
1976	39.0	–	39.0	134.7	–	134.7	25.8	–	25.8
1977	38.7	–	38.7	123.2	–	123.2	29.3	–	29.3
1978	45.3	–	45.3	126.9	–	126.9	32.9	–	32.9
1979	42.6	–	42.6	129.9	–	129.9	30.6	–	30.6
1980	46.4	–	46.4	136.7	–	136.7	30.8	–	30.8
1981	48.8	–	48.8	140.8	–	140.8	34.3	–	34.3
1982	47.9	–	47.9	147.2	–	147.2	32.0	–	32.0
1983	34.8	–	34.8	138.8	–	138.8	33.4	–	33.4
1984	38.0	–	38.0	131.9	–	131.9	35.9	–	35.9
1985	49.3	0.0	49.3	128.6	0.0	128.6	36.5	0.0	36.5
1986	51.8	1.1	52.9	130.4	1.0	131.4	38.2	0.0	38.2
1987	52.1	7.3	59.3	138.9	6.4	145.3	26.5	0.7	27.2
1988	55.0	10.5	65.5	147.9	9.2	156.3	29.9	4.4	34.3
1989	62.7	13.9	76.5	151.7	12.2	163.9	30.4	6.3	36.7
1990	62.3	13.4	75.7	161.0	11.8	172.8	32.2	8.3	40.5
1991	45.0	9.6	54.6	151.0	9.2	160.2	32.2	8.0	40.2
1992	40.5	9.4	49.9	142.9	9.0	151.9	36.1	5.8	41.9
1993	46.1	17.0	63.0	122.7	14.9	137.5	39.6	5.6	45.2
1994	50.5	8.9	59.4	123.3	7.8	131.1	34.3	10.2	44.5
1995	44.9	15.1	60.0	123.8	12.1	135.9	24.0	8.9	32.9
1996	42.3	33.8	76.1	126.3	30.2	156.5	23.2	8.5	31.7
1997	41.4	54.0	95.4	123.8	48.1	171.9	27.2	17.1	44.3
1998	–	–	125.3	–	–	193.6	–	–	53.9
1999	–	–	195.7	–	–	254.8	–	–	62.4
2000	–	–	178.4	–	–	275.6	–	–	73.7

(a) The number of traineeship recommencements and numbers in training from 1985 to 1993 have been estimated by NCVER and were published in NCVER (1998).

(b) The series includes commencements and recommencements prior to 1995. Since 1995 the data cover commencements only. Commencements and recommencements data prior to 1985 are the number of indentures registered in some States and Territories (see DEIR 1980 for explanatory notes).

(c) The number of traineeship completions for 1986 to 1993 have been estimated using the trainee completions estimates derived by the Department of Education, Training and Youth Affairs (see Grey et al. 1999) which show that traineeship non-completions have averaged 40%. Thus traineeship completions between 1986 and 1994 have been estimated here to be 60% of the previous year's commencements. This proxy for traineeship completions provides an indication of trends in trainee completions in the absence of actual data prior to 1994.

Source: DEIR (1986); DEYA (1980); NCVER (1995, 1998, 2000a, 2000b, 2000c)

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Table 85: The number of apprenticeships, traineeships and new apprenticesh

Occupational group (1985–1994)		Apprentices & trainees in							
		1985	1986	1987	1988(d)	1989	1990	1991	19
1	**Managers & administrators**	0.0	0.0	0.0	(a)	(a)	0.1	0.1	0.
2	**Professionals**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
3	**Para-professionals**	0.0	(a)	(a)	0.1	0.1	0.1	0.1	0.
41	**Metal fitting/mach.**	–	–	–	15.2	15.5	16.2	15.1	14.
42	**Other metal**	44.5	42.1	43.4	11.6	12.2	13.4	12.3	11.
43	**Electrical**	18.3	18.0	17.9	20.9	21.9	23.3	22.4	20.
44	**Building**	21.9	22.8	25.2	27.7	30.3	32.7	30.6	28.
45	**Printing**	3.4	3.8	4.3	4.7	3.4	4.5	4.0	3.
46	**Vehicle**	6.0	6.5	7.3	23.8	25.3	27.1	25.3	23.
47	**Food**	11.0	12.0	13.2	13.9	13.8	14.3	13.9	13.
48	**Horticulture**	–	–	–	3.2	3.4	3.5	3.5	3.
4927	**Hairdressing**	12.4(b)	13.3(b)	14.5	14.0	13.6	13.2	12.5	12.
4900	**Other**	11.2(b)	11.9(b)	13.0	12.0	12.4	12.8	11.3	10.
5	**Clerks**	0.0	0.9	4.7	7.1	7.9	7.4	5.4	5.

ips by occupational group, 1985–2000

training at 30 June[c] ('000)									Occupational group (1995 onwards)	
92	1993	1994	1995[e]	1996	1997	1998	1999	2000		
1	0.1	0.1	1.6	2.3	2.8	2.4	2.5	2.8	**1**	**Managers & administrators**
0	0.0	0.0	0.1	0.2	0.4	1.5	1.6	1.8	**2**	**Professionals**
1	0.2	0.1	1.3	2.9	4.8	6.8	6.8	7.5	**3**	**Associate professionals**
4	12.4	11.2	20.0	21.1	21.3	20.9	20.1	18.9	**41**	**Mech. & fabrication eng. tradespersons**
6	9.8	9.5								
9	17.8	16.5	15.3	16.1	16.7	17.2	18.0	19.4	**43**	**Electrical & electronics tradespersons**
8	23.8	25.5	26.7	26.0	24.6	24.4	26.8	31.4	**44**	**Construction tradespersons**
6	2.0	2.0	2.3	2.4	2.2	2.0	1.8	1.9	**491**	**Printing tradespersons**
4	19.6	18.9	21.0	23.0	23.8	23.1	22.9	23.9	**42**	**Automotive tradespersons**
9	13.5	15.2	14.9	15.9	16.6	17.1	20.2	20.7	**45**	**Food tradespersons**
4	3.4	3.5	3.4	3.3	3.2	3.2	3.6	4.6	**46**	**Skilled agri. & horticultural workers**
2	11.3	11.2	9.8	9.7	9.5	9.4	10.0	10.7	**4931**	**Hairdressers**
8	9.2	9.6	6.9	6.9	6.8	6.7	7.1	8.1		**All other misc. tradespersons & related workers**
1	8.4	3.7	0.1	0.2	0.2	0.2	0.1	0.1	**5**	**Advanced clerical & service workers**

Table 85: The number of apprenticeships, traineeships and new apprenticesh

Occupational group (1985–1994)		Apprentices & trainees in							
		1985	1986	1987	1988[d]	1989	1990	1991	19
6	**Salespersons & personal services workers**	0.0	[a]	0.8	0.7	0.8	2.8	2.5	2.
7	**Plant & machine operators & drivers**	0.0	0.0	0.1	0.4	0.9	0.6	0.5	0.
8	**Labourers & related workers**	0.0	0.1	0.7	0.9	2.5	0.9	0.6	0.
4	**Total tradespersons & related occupations**	128.6	130.4	139.0	147.1	151.7	160.9	151.0	142.
	Total all apprenticeships & traineeships	128.6	131.4	145.3	156.3	163.9	172.8	160.2	151.

(a) The number in training is less than 50.

(b) Estimated by NCVER.

(c) The number of trainees in training have been estimated between 1985 and 1993.

(d) From 1988 onwards changes were made to occupational groupings. These include: the sp removal of 'horticulture' from the 'miscellaneous' trade group category as a separate gro the 'vehicle' trade.

(e) From 1995 onwards farming vocations were transferred from the 'miscellaneous' trade g

Source: NCVER (2000a, 2000b, 2000c)

ips by occupational group, 1985–2000 (cont.)

training at 30 June[c] ('000)										Occupational group (1995 onwards)
92	1993	1994	1995[e]	1996	1997	1998	1999	2000		
6	4.7	2.8	8.1	15.0	21.7	30.7	49.7	47.8	**6**	**Intermediate clerical, sales & service workers**
			2.1	4.8	6.6	9.9	33.8	33.6	**8**	**Elementary clerical, sales & service workers**
5	0.6	0.5	0.5	1.5	2.1	3.4	7.4	11.9	**7**	**Intermediate production & transport workers**
6	0.9	0.7	2.0	5.0	8.7	14.6	22.3	30.6	**9**	**Labourers & related workers**
9	122.6	123.2	120.2	124.5	124.7	124.1	130.5	139.4	**4**	**Total tradespersons & related occupations**
9	137.5	131.1	135.9	156.5	171.9	193.6	254.8	275.6		**Total all apprenticeships & traineeships**

litting of 'metal' into two trade groups—'metal fitting and machining' and 'other metal'; the
uping; and the transfer of the trade vehicle mechanic from the 'metal' trade group category to

roup to 'managers and administrators'.

Table 86: The proportion of apprentices and trainees and new apprentices by

Occupational group (1985–1994)		Apprentices & trainees							
		1985	1986	1987	1988[b]	1989	1990	1991	199
1	**Managers & administrators**	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.
2	**Professionals**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.
3	**Para-professionals**	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.
4	**Tradespersons & related workers**	100.0	99.2	95.6	94.1	92.6	93.1	94.2	94.
5/6	**Clerks, salespersons, personal services workers**	0.0	0.7	3.8	5.0	5.3	5.9	4.9	5.
7	**Plant & machine operators & drivers**	0.0	0.0	0.1	0.2	0.5	0.3	0.3	0.
8	**Labourers & related workers**	0.0	0.1	0.5	0.6	1.5	0.5	0.4	0.
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.

(a) The number of trainees in training have been estimated between 1985 and 1993.

(b) From 1988 onwards changes were made to occupational groupings. These include: the sp
removal of 'horticulture' from the 'miscellaneous' trade group category as a separate gro
'vehicle' trade.

(c) From 1995 onwards farming vocations were transferred from the 'miscellaneous' trade g

Source: NCVER (2000a, 2000b, 2000c)

occupational group, 1985–2000

in training at 30 June[a] (%)								Occupational group (1995 onwards)	
1993	1994	1995[c]	1996	1997	1998	1999	2000		
0.1	0.1	1.2	1.5	1.6	1.3	1.0	1.0	1	**Managers & administrators**
0.0	0.0	0.1	0.1	0.3	0.8	0.6	0.7	2	**Professionals**
0.2	0.1	1.0	1.8	2.8	3.5	2.7	2.7	3	**Associate professionals**
89.0	94.0	88.4	79.6	72.6	64.1	51.2	50.7	4	**Tradespersons & related workers**
9.5	4.9	7.5	12.8	16.6	21.1	32.8	29.6	5/6/8	**Advanced, intermediate & elementary clerical, sales & service workers**
0.4	0.4	0.4	1.0	1.2	1.7	2.9	4.3	7	**Intermediate production & transport workers**
0.7	0.5	1.4	3.2	5.0	7.6	8.8	11.1	9	**Labourers & related workers**
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		

plitting of 'metal' into two trade groups—'metal fitting and machining' and 'other metal'; the
uping; and the transfer of the trade vehicle mechanic from the 'metal' trade group category to the

roup to 'managers and administrators'.

Table 87: The number of apprentices and trainees and new apprenticeships

Occupational group		1987				1995		
		No. employed ('000)		Proportion of total (%)		No. employed ('000)		Pr
		A&T	*Wkforce*	*A&T*	*Wkforce*	*A&T*	*Wkforce*	*A&*
1	Managers & administrators	0.0	783.8	0.0	11.0	1.6	881.3	1
2	Professionals	0.0	868.7	0.0	12.2	0.1	1149.1	(
3	Associate professionals	0.1	427.0	0.1	6.0	1.3	466.8	1
4	Tradespersons & related workers	138.8	1128.5	95.5	15.9	120.2	1192.4	88
5	Advanced clerical & service workers	4.7	1224.6	3.2	17.2	0.1	1347.9	(
6	Intermediate clerical, sales & service workers*	0.8	989.1	0.6	13.9	10.2	1389.2	7
7	Intermediate production & transport workers	0.1	566.2	0.1	8.1	0.5	581.7	(
8	Elementary clerical, sales & service workers	*	*	*	*	*	*	*
9	Labourers & related workers	0.8	1112.3	0.6	15.7	2.0	1222.5	
	Total	145.3	7100.1	100.0	100.0	135.9	8230.9	10

* Elementary clerical, sales and service workers are included in the totals for intermediate

Source: NCVER (2000b); ABS (2000a)

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and all employed persons by occupation, 1987, 1995, 1997 and 2000

		1997				2000			
roportion of total (%)		No. employed ('000)		Proportion of total (%)		No. employed ('000)		Proportion of total (%)	
&T	*Wkforce*	*A&T*	*Wkforce*	*A&T*	*Wkforce*	*A&T*	*Wkforce*	*A&T*	*Wkforce*
1.2	10.7	2.8	637.9	1.6	7.6	2.8	634.4	1.0	7.0
0.1	14.0	0.4	1436.4	0.3	17.1	1.8	1645.4	0.7	18.3
1.0	5.7	4.8	912.6	2.8	10.9	7.5	1013.2	2.7	11.2
8.4	14.5	124.7	1147.0	72.6	13.7	139.4	1202.5	50.7	13.6
0.1	16.4	0.2	175.8	0.1	4.5	0.1	389.9	0.1	4.3
7.4	16.9	21.7	1398.2	12.6	16.7	47.8	1581.2	17.3	17.5
0.4	7.1	2.1	770.7	1.2	9.2	11.9	802.6	4.3	8.9
*	*	6.6	870.1	3.8	10.0	33.6	871.4	12.2	9.7
1.5	14.9	8.7	840.6	5.0	10.0	30.6	875.9	11.1	9.7
00.0	100.0	171.9	8389.3	100.0	99.7	275.6	9016.5	100.0	100.0

e clerical, sales and service workers in 1987 and 1995.

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Table 88: The duration of apprenticeships and traineeships and new apprenticeships, 1995–2000

Expected duration of training contract	Year at 30 June					
	1995	1996	1997	1998	1999	2000
	No. in training ('000)					
1 year or less	15.1	28.7	40.9	54.0	81.7	55.0
Over 1 year & up to & including 2 years	11.1	13.0	15.2	21.9	38.8	50.9
Over 2 years & up to & including 3 years	13.1	13.6	13.3	14.4	27.4	48.4
Over 3 years & up to & including 4 years	90.6	95.2	97.2	98.7	103.1	117.8
Over 4 years	6.0	6.1	5.4	4.5	3.6	3.6
Total	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**
	Proportion of apprenticeships & traineeships (%)					
1 year or less	11.1	18.3	23.8	27.9	32.1	19.9
Over 1 year & up to & including 2 years	8.1	8.3	8.8	11.3	15.2	18.5
Over 2 years & up to & including 3 years	9.6	8.7	7.7	7.5	10.8	17.6
Over 3 years & up to & including 4 years	66.6	60.8	56.6	51.0	40.5	42.7
Over 4 years	4.4	3.9	3.1	2.3	1.4	1.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: NCVER (2000a, 2000b, 2000c)

Table 89: The level of qualifications of apprenticeships, traineeships and new apprenticeships, 1995–2000

AQF qualification level	Year at 30 June					
	1995	1996	1997	1998	1999	2000
	No. in training ('000)					
Certificate I	0.6	0.5	0.5	0.4	0.3	0.1
Certificate II	8.8	22.7	31.8	44.9	53.9	57.2
Certificate III	114.4	120.8	126.9	137.1	188.2	207.6
Certificate IV or higher	0.3	0.4	1.1	3.4	8.3	8.4
Not known	11.9	12.1	11.6	7.7	4.2	2.3
Total	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**
	Proportion of apprenticeships & traineeships (%)					
Certificate I	0.4	0.3	0.3	0.2	0.1	0.1
Certificate II	6.5	14.5	18.5	23.2	21.1	20.7
Certificate III	84.1	77.2	73.8	70.8	73.9	75.3
Certificate IV or higher	0.2	0.2	0.6	1.8	3.3	3.1
Not known	8.8	7.7	6.8	4.0	1.6	0.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: NCVER (2000a, 2000b, 2000c)

Table 90: The duration of apprenticeships and traineeships and new apprenticeships by AQF qualification level, 1995–2000

Expected duration of training contract	No. in training at 30 June ('000)					
	1995	1996	1997	1998	1999	2000
Certificate I & II						
1 year or less	7.4	19.4	26.0	34.3	36.5	32.9
Over 1 year & up to & including 2 years	1.1	2.7	4.9	8.6	11.4	13.3
Over 2 years & up to & including 3 years	0.2	0.4	0.5	1.2	4.7	8.9
Over 3 years & up to & including 4 years	0.6	0.7	0.8	1.2	1.6	2.3
Over 4 years	0.0	0.0	0.0	0.1	0.1	0.0
Total Certificate I & II	**9.4**	**23.2**	**32.3**	**45.3**	**54.1**	**57.3**
Certificate III						
1 year or less	5.5	6.7	11.5	16.5	40.6	19.8
Over 1 year & up to & including 2 years	8.7	9.0	9.1	12.0	25.1	34.5
Over 2 years & up to & including 3 years	12.1	12.5	12.2	12.7	21.9	37.8
Over 3 years & up to & including 4 years	82.6	87.1	89.0	91.6	97.1	112.2
Over 4 years	5.4	5.7	5.1	4.2	3.4	3.2
Total Certificate III	**114.4**	**120.8**	**126.9**	**137.1**	**188.2**	**207.6**
Certificate IV/Diploma/Advanced Diploma						
1 year or less	0.1	0.2	0.6	2.1	4.6	2.2
Over 1 year & up to & including 2 years	0.0	0.1	0.2	0.7	2.2	3.1
Over 2 years & up to & including 3 years	0.0	0.0	0.1	0.1	0.6	1.7
Over 3 years & up to & including 4 years	0.1	0.1	0.1	0.3	0.8	1.1
Over 4 years	0.0	0.0	0.1	0.1	0.2	0.3
Total Certificate IV	**0.3**	**0.4**	**1.1**	**3.4**	**8.3**	**8.4**
Total all AQF levels*	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**

*Includes contracts where an AQF qualification level is not known.

Source: NCVER (2000a, 2000b, 2000c)

Table 91: Apprenticeships and traineeships and new apprenticeships in the managerial and administrative occupations by level of qualification and duration of training, 1995–2000

Category	No. in training at 30 June ('000)					
	1995	1996	1997	1998	1999	2000
Level of qualification						
Certificate I & II	0.2	0.8	1.0	1.0	1.0	1.1
Certificate III	1.1	1.3	1.5	1.3	1.3	1.4
Certificate IV or higher	0.0	0.0	0.0	0.1	0.2	0.3
Not known	0.3	0.3	0.2	0.1	0.0	0.0
Total all AQF levels	**1.6**	**2.3**	**2.8**	**2.4**	**2.5**	**2.8**
Duration of training contract						
1 year or less	0.1	0.8	1.2	1.2	0.9	0.8
Over 1 year & up to & including 2 years	0.4	0.6	0.7	0.6	0.8	0.9
Over 2 years & up to & including 3 years	0.2	0.1	0.2	0.2	0.5	0.8
Over 3 years & up to & including 4 years	0.8	0.8	0.6	0.5	0.4	0.3
Over 4 years	0.0	0.0	0.0	0.0	0.0	0.0
Total all training	**1.6**	**2.3**	**2.8**	**2.4**	**2.5**	**2.8**

Source: NCVER (2000a, 2000b, 2000c)

Table 92: Apprenticeships and traineeships and new apprenticeships in the professional occupations by level of qualification and duration of training, 1995–2000

Category	No. in training at 30 June ('000)					
	1995	1996	1997	1998	1999	2000
Level of qualification						
Certificate I & II	0.0	0.2	0.3	1.0	0.6	0.4
Certificate III	0.0	0.0	0.0	0.2	0.4	0.6
Certificate IV or higher	0.1	0.0	0.1	0.4	0.7	0.8
Not known	0.0	0.0	0.0	0.0	0.0	0.0
Total all AQF levels	**0.1**	**0.2**	**0.4**	**1.5**	**1.6**	**1.8**
Duration of training contract						
1 year or less	0.1	0.2	0.3	0.7	0.6	0.5
Over 1 year & up to & including 2 years	0.0	0.0	0.1	0.8	0.8	0.5
Over 2 years & up to & including 3 years	0.0	0.0	0.0	0.0	0.2	0.7
Over 3 years & up to & including 4 years	0.0	0.0	0.0	0.0	0.0	0.1
Over 4 years	0.0	0.0	0.0	0.0	0.0	0.0
Total all training	**0.1**	**0.2**	**0.4**	**1.5**	**1.6**	**1.8**

Source: NCVER (2000a, 2000b, 2000c)

Table 93: Apprenticeships and traineeships and new apprenticeships in the associate professional occupations by level of qualification and duration of training, 1995–2000

Category	No. in training at 30 June ('000)					
	1995	1996	1997	1998	1999	2000
Level of qualification						
Certificate I & II	0.3	0.6	1.5	2.1	1.9	1.8
Certificate III	0.7	1.4	2.0	2.3	1.9	1.8
Certificate IV or higher	0.0	0.1	0.5	2.1	3.0	3.9
Not known	0.3	0.8	0.7	0.2	0.0	0.0
Total all AQF levels	**1.3**	**2.9**	**4.8**	**6.8**	**6.8**	**7.5**
Duration of training contract						
1 year or less	0.5	1.4	2.8	4.3	4.0	3.2
Over 1 year & up to & including 2 years	0.3	0.8	1.2	1.4	1.7	2.9
Over 2 years & up to & including 3 years	0.1	0.2	0.3	0.4	0.4	0.6
Over 3 years & up to & including 4 years	0.4	0.4	0.5	0.6	0.7	0.7
Over 4 years	0.0	0.0	0.1	0.1	0.1	0.2
Total all training	**1.3**	**2.9**	**4.8**	**6.8**	**6.8**	**7.5**

Source: NCVER (2000a, 2000b, 2000c)

Table 94: Apprenticeships and traineeships and new apprenticeships in the skilled trades and related occupations by level of qualification and duration of training, 1995–2000

Category	No. in training at 30 June ('000)					
	1995	1996	1997	1998	1999	2000
Level of qualification						
Certificate I & II	0.7	0.9	1.2	2.5	3.7	5.0
Certificate III	110.4	114.7	115.1	115.5	122.6	131.4
Certificate IV or higher	0.1	0.2	0.2	0.2	0.4	0.7
Not known	9.0	8.7	8.2	6.0	3.8	2.3
Total all AQF levels	**120.2**	**124.5**	**124.7**	**124.1**	**130.5**	**139.4**
Duration of training contract						
1 year or less	4.1	4.0	4.3	3.9	5.7	2.5
Over 1 year & up to & including 2 years	8.9	8.5	7.7	7.5	8.2	6.7
Over 2 years & up to & including 3 years	12.3	12.5	11.9	11.4	12.6	14.0
Over 3 years & up to & including 4 years	88.9	93.5	95.6	96.9	100.8	113.7
Over 4 years	6.0	6.0	5.3	4.3	3.3	2.5
Total all training	**120.2**	**124.5**	**124.7**	**124.1**	**130.5**	**139.4**

Source: NCVER (2000a, 2000b, 2000c)

Table 95: Apprenticeships and traineeships and new apprenticeships in the clerical, sales and service occupations by level of qualification and duration of training, 1995–2000

Category	No. in training at 30 June ('000)					
	1995	1996	1997	1998	1999	2000
Level of qualification						
Certificate I & II	6.6	15.9	19.5	24.6	31.6	34.7
Certificate III	1.7	2.5	7.3	15.2	48.2	44.6
Certificate IV or higher	0.0	0.0	0.2	0.5	3.7	2.2
Not known	2.0	1.6	1.5	0.5	0.0	0.0
Total all AQF levels	**10.3**	**20.0**	**28.5**	**40.8**	**83.6**	**81.4**
Duration of training contract						
1 year or less	8.8	17.9	24.9	32.1	56.1	37.8
Over 1 year & up to & including 2 years	0.7	1.3	2.8	6.8	17.8	23.5
Over 2 years & up to & including 3 years	0.4	0.4	0.4	1.4	8.8	18.4
Over 3 years & up to & including 4 years	0.3	0.4	0.4	0.4	0.8	1.4
Over 4 years	0.0	0.0	0.0	0.0	0.2	0.2
Total all training	**10.3**	**20.0**	**28.5**	**40.8**	**83.6**	**81.4**

Source: NCVER (2000a, 2000b, 2000c)

Table 96: Apprenticeships and traineeships and new apprenticeships in the intermediate production and transport occupations by level of qualification and duration of training, 1995–2000

Category	No. in training at 30 June ('000)					
	1995	1996	1997	1998	1999	2000
Level of qualification						
Certificate I & II	0.2	0.7	1.4	2.5	3.2	3.1
Certificate III	0.1	0.6	0.4	0.6	4.0	8.7
Certificate IV or higher	0.0	0.0	0.0	0.1	0.1	0.2
Not known	0.1	0.2	0.2	0.2	0.1	0.0
Total all AQF levels	**0.5**	**1.5**	**2.1**	**3.4**	**7.4**	**11.9**
Duration of training contract						
1 year or less	0.3	0.9	1.5	2.5	4.1	2.5
Over 1 year & up to & including 2 years	0.1	0.4	0.4	0.6	2.1	4.7
Over 2 years & up to & including 3 years	0.1	0.2	0.2	0.2	0.9	3.8
Over 3 years & up to & including 4 years	0.1	0.1	0.1	0.1	0.3	0.6
Over 4 years	0.0	0.0	0.0	0.0	0.0	0.3
Total all training	**0.5**	**1.5**	**2.1**	**3.4**	**7.4**	**11.9**

Source: NCVER (2000a, 2000b, 2000c)

Table 97: Apprenticeships and traineeships and new apprenticeships in the labourer and related occupations by level of qualification and duration of training, 1995–2000

Category	No. in training at 30 June ('000)					
	1995	1996	1997	1998	1999	2000
Level of qualification						
Certificate I & II	1.4	4.2	7.3	11.7	12.1	11.3
Certificate III	0.3	0.3	0.6	2.2	9.9	18.9
Certificate IV or higher	0.0	0.0	0.0	0.1	0.2	0.3
Not known	0.3	0.5	0.7	0.7	0.1	0.1
Total all AQF levels	**2.0**	**5.0**	**8.7**	**14.6**	**22.3**	**30.6**
Duration of training contract						
1 year or less	1.3	3.4	5.9	9.4	10.5	7.8
Over 1 year & up to & including 2 years	0.6	1.3	2.4	4.3	7.4	11.5
Over 2 years & up to & including 3 years	0.1	0.2	0.3	0.7	4.1	10.1
Over 3 years & up to & including 4 years	0.0	0.0	0.1	0.2	0.3	1.0
Over 4 years	0.0	0.0	0.0	0.0	0.1	0.3
Total all training	**2.0**	**5.0**	**8.7**	**14.6**	**22.3**	**30.6**

Source: NCVER (2000a, 2000b, 2000c)

Table 98: Full- and part-time apprenticeships, traineeships and new apprenticeships, 1995–2000

Mode of apprenticeship or traineeship	Year at 30 June					
	1995	1996	1997	1998	1999	2000
	No. in training ('000)					
Full-time	124.1	142.7	155.9	172.9	219.3	227.3
Part-time	2.7	3.2	3.9	10.4	30.2	45.4
Mode not known	9.1	10.6	12.1	10.2	5.3	3.0
Total	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**
	Proportion of apprenticeships & traineeships (%)					
Full-time	91.3	91.2	90.7	89.3	86.1	82.5
Part-time	2.0	2.0	2.3	5.4	11.8	16.5
Mode not known	6.7	6.8	7.1	5.3	2.1	1.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: NCVER (2000a, 2000b, 2000c)

Table 99: The type of employer of apprentices, trainees and new apprentices, 1995–2000

Employer type	Year at 30 June					
	1995	1996	1997	1998	1999	2000
	No. in training ('000)					
Private sector	109.3	125.7	137.9	153.4	204.5	222.2
Group training	17.5	20.7	23.6	28.8	34.4	38.9
Commonwealth Government	2.2	2.6	2.3	1.9	1.4	1.0
State government	4.5	4.7	4.8	6.1	9.0	7.4
Other government*	2.5	2.8	3.3	3.5	5.5	6.2
Total	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**
	Proportion of apprenticeships & traineeships (%)					
Private sector	80.4	80.3	80.2	79.2	80.3	80.6
Group training	12.9	13.2	13.7	14.9	13.5	14.1
Commonwealth Government	1.6	1.7	1.4	1.0	0.6	0.4
State government	3.3	3.0	2.8	3.1	3.5	2.7
Other government*	1.8	1.8	1.9	1.8	2.2	2.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* Other government covers local government and government business enterprises.

Source: NCVER (2000a, 2000b, 2000c)

Table 100: The gender of apprentices and trainees and new apprentices, 1995–2000

Gender	Year at 30 June					
	1995	1996	1997	1998	1999	2000
	No. in training ('000)					
Male	113.5	127.2	134.9	143.6	173.0	190.3
Female	22.5	29.4	37.0	50.0	81.8	85.4
Total persons	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**
	Proportion of apprenticeships & traineeships (%)					
Male	83.5	81.2	78.5	74.2	67.9	69.0
Female	16.5	18.8	21.5	25.8	32.1	31.0
Total persons	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: NCVER (2000c)

Table 101: The number of apprentices and trainees and new apprentices by gender and occupation, 1995–2000

Occupational group	No. in training at 30 June ('000)					
	1995	1996	1997	1998	1999	2000
Males						
Managers & administrators	1.5	2.0	2.2	1.9	2.0	2.1
Professionals & associate professionals	1.0	2.4	3.8	4.8	5.0	5.6
Tradespersons & related workers	105.8	109.7	109.9	109.1	114.2	121.5
Clerical, sales & service workers	3.0	7.3	9.6	13.0	28.7	27.3
Intermediate production & transport workers	0.5	1.4	1.9	3.0	6.5	10.4
Labourers & related workers	1.7	4.4	7.5	11.8	16.6	23.4
Total males	**113.5**	**127.2**	**134.9**	**143.6**	**173.0**	**190.3**
Females						
Managers & administrators	0.1	0.3	0.6	0.5	0.5	0.7
Professionals & associate professionals	0.4	0.7	1.4	3.5	3.4	3.8
Tradespersons & related workers	14.4	14.9	14.9	15.0	16.3	17.9
Clerical, sales & service workers	7.2	12.8	18.8	27.8	54.9	54.2
Intermediate production & transport workers	0.0	0.1	0.2	0.3	0.9	1.6
Labourers & related workers	0.3	0.6	1.1	2.8	5.8	7.2
Total females	**22.5**	**29.4**	**37.0**	**50.0**	**81.8**	**85.4**
Total persons	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**

Source: NCVER (2000c)

Table 102: The number of apprentices and trainees and new apprentices by gender and level of qualification, 1995–2000

Level of qualification	No. in training at 30 June ('000)					
	1995	1996	1997	1998	1999	2000
Males						
Certificate I & II	4.4	12.3	18.4	26.6	30.8	31.4
Certificate III	99.6	104.9	106.5	108.8	134.7	152.4
Certificate IV or higher	0.2	0.3	0.6	1.7	3.9	4.3
Not known	9.3	9.7	9.4	6.4	3.6	2.1
Total males	**113.5**	**127.2**	**134.9**	**143.6**	**173.0**	**190.3**
Females						
Certificate I & II	5.0	10.9	13.9	18.7	23.4	25.9
Certificate III	14.8	16.0	20.4	28.3	53.5	55.2
Certificate IV or higher	0.1	0.1	0.5	1.7	4.4	4.1
Not known	2.6	2.3	2.2	1.3	0.5	0.2
Total females	**22.5**	**29.4**	**37.0**	**50.0**	**81.8**	**85.4**
Total persons	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**

Source: NCVER (2000c)

Table 103: The age of apprentices and trainees and new apprentices, 1995–2000

Age	Year at 30 June					
	1995	1996	1997	1998	1999	2000
	No. in training ('000)					
15–19 years*	72.8	75.8	77.2	82.4	95.0	101.2
20–24 years	53.2	63.5	68.6	71.3	80.3	86.4
25–39 years	8.7	14.4	20.5	28.3	50.1	55.1
40 years & over	1.2	2.8	5.6	11.5	29.3	33.0
Total persons	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**
	Proportion of apprentices & trainees (%)					
15–19 years*	53.6	48.4	44.9	42.6	37.3	36.7
20–24 years	39.2	40.6	39.9	36.8	31.5	31.3
25–39 years	6.4	9.2	11.9	14.6	19.7	20.0
40 years & over	0.8	1.8	3.2	5.9	11.5	12.0
Total persons	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* Includes a very small number aged less than 15 years.

Source: NCVER (2000c)

Table 104: The age of commencing apprentices and trainees and new apprentices, 1995–2000

Age	12 months ending 30 June					
	1995	1996	1997	1998	1999	2000
	No. of commencements ('000)					
15–19 years*	42.4	45.5	49.8	58.1	72.6	71.3
20–24 years	13.0	18.4	24.2	30.6	43.4	39.0
25–39 years	3.8	9.7	15.8	24.3	48.5	42.4
40 years & over	0.6	2.6	5.6	12.4	31.4	25.6
Total	**60.0**	**76.1**	**95.4**	**125.3**	**195.7**	**178.4**
	Proportion of total commencements (%)					
15–19 years*	70.8	59.7	52.2	46.4	37.1	40.0
20–24 years	21.7	24.2	25.3	24.4	22.2	21.9
25–39 years	6.4	12.7	16.6	19.4	24.8	23.8
40 years & over	1.1	3.4	5.9	9.9	16.0	14.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* Includes a very small number aged less than 15 years.

Source: NCVER (2000c)

Table 105: The gender and age of apprentices and trainees and new apprentices, 1995–2000

Gender & age	Year at 30 June					
	1995	1996	1997	1998	1999	2000
			No. in training ('000)			
Males						
15–19 years*	59.9	60.9	60.5	62.8	69.6	73.0
20–24 years	45.4	53.1	56.3	56.6	59.7	64.7
25–39 years	7.3	11.3	15.2	19.1	30.3	35.0
40 years & over	0.8	1.9	3.0	5.0	13.4	17.5
Total males	**113.5**	**127.2**	**134.9**	**143.6**	**173.0**	**190.3**
			Proportion of apprentices & trainees (%)			
Males						
15–19 years*	52.8	47.9	44.8	43.8	40.2	38.4
20–24 years	40.0	41.8	41.7	39.5	34.5	34.0
25–39 years	6.5	8.9	11.2	13.3	17.5	18.4
40 years & over	0.7	1.5	2.2	3.5	7.7	9.2
Total males	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
			No. in training ('000)			
Females						
15–19 years*	12.9	14.9	16.7	19.6	25.5	28.2
20–24 years	7.8	10.4	12.3	14.6	20.6	21.6
25–39 years	1.4	3.1	5.4	9.3	19.8	20.1
40 years & over	0.3	0.9	2.6	6.5	16.0	15.5
Total females	**22.5**	**29.4**	**37.0**	**50.0**	**81.8**	**85.4**
			Proportion of apprentices & trainees (%)			
Females						
15–19 years*	57.6	50.8	45.2	39.3	31.1	33.0
20–24 years	34.8	35.5	33.3	29.3	25.2	25.3
25–39 years	6.2	10.6	14.5	18.5	24.2	23.5
40 years & over	1.5	3.2	6.9	13.0	19.5	18.2
Total females	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
			No. in training ('000)			
Persons						
15–19 years*	72.8	75.8	77.2	82.4	95.0	101.2
20–24 years	53.2	63.5	68.6	71.3	80.3	86.4
25–39 years	8.7	14.4	20.5	28.3	50.1	55.1
40 years & over	1.2	2.8	5.6	11.5	29.3	33.0
Total persons	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**
			Proportion of apprentices & trainees (%)			
Persons						
15–19 years*	53.6	48.4	44.9	42.6	37.3	36.7
20–24 years	39.2	40.6	39.9	36.8	31.5	31.3
25–39 years	6.4	9.2	11.9	14.6	19.7	20.0
40 years & over	0.8	1.8	3.2	5.9	11.5	12.0
Total persons	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* Includes a very small number aged less than 15 years.

Source: NCVER (2000c)

Table 106: The number of apprentices and trainees and new apprentices by age and occupation, 1995–2000

Occupational groups	No. in training at 30 June ('000)					
	1995	1996	1997	1998	1999	2000
Aged 15–19 years*						
Managers & administrators	0.9	1.2	1.4	1.2	1.3	1.3
Professionals & associate professionals	0.5	0.8	1.3	1.8	2.3	2.7
Tradespersons & related workers	63.2	61.2	58.9	58.7	62.3	65.2
Clerical, sales & service workers	6.9	10.2	12.2	15.7	23.2	25.7
Intermediate production & transport workers	0.3	0.6	0.7	0.9	1.2	1.3
Labourers & related workers	1.0	1.8	2.7	4.1	4.7	4.9
Total	**72.8**	**75.8**	**77.2**	**82.4**	**95.0**	**101.2**
Aged 20–24 years						
Managers & administrators	0.5	0.8	0.8	0.7	0.6	0.7
Professionals & associate professionals	0.6	1.2	1.8	2.2	2.2	2.3
Tradespersons & related workers	48.9	54.0	55.0	53.4	53.1	57.4
Clerical, sales & service workers	2.6	5.8	8.1	10.9	19.6	20.1
Intermediate production & transport workers	0.1	0.4	0.6	0.9	1.3	1.7
Labourers & related workers	0.5	1.4	2.3	3.1	3.6	4.2
Total	53.2	63.5	68.6	71.3	80.3	86.4
Aged 25–39 years						
Managers & administrators	0.1	0.3	0.5	0.4	0.4	0.5
Professionals & associate professionals	0.3	0.9	1.6	2.5	2.4	2.8
Tradespersons & related workers	7.3	8.4	9.7	10.7	12.9	14.3
Clerical, sales & service workers	0.6	3.0	5.4	8.8	23.9	22.0
Intermediate production & transport workers	0.1	0.4	0.6	1.1	2.8	5.0
Labourers & related workers	0.4	1.4	2.8	5.0	7.7	10.6
Total	**8.7**	**14.4**	**20.5**	**28.3**	**50.1**	**55.1**
Aged 40 years & over						
Managers & administrators	0.0	0.1	0.1	0.1	0.1	0.3
Professionals & associate professionals	0.0	0.2	0.5	1.6	1.4	1.5
Tradespersons & related workers	0.8	0.9	1.1	1.3	2.4	2.5
Clerical, sales & service workers	0.2	1.1	2.7	5.5	16.9	13.7
Intermediate production & transport workers	0.0	0.1	0.2	0.5	2.2	4.0
Labourers & related workers	0.1	0.4	0.9	2.4	6.4	11.0
Total	**1.2**	**2.8**	**5.6**	**11.5**	**29.3**	**33.0**
Total all ages	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**

* Includes a very small number aged less than 15 years.

Source: NCVER (2000c)

Table 107: The number of apprentices and trainees and new apprentices by age and level of qualification, 1995–2000

Level of qualification	No. in training at 30 June ('000)					
	1995	1996	1997	1998	1999	2000
Aged 15–19 years*						
Certificate I & II	5.8	10.7	13.0	17.1	23.3	26.2
Certificate III	60.7	59.9	59.8	62.4	69.9	73.6
Certificate IV or higher	0.1	0.1	0.3	0.8	1.1	1.1
Not known	6.2	5.0	4.1	2.2	0.7	0.2
Total	**72.8**	**75.8**	**77.2**	**82.4**	**95.0**	**101.2**
Aged 20–24 years						
Certificate I & II	2.5	6.8	9.0	12.0	13.1	14.0
Certificate III	46.1	51.6	54.3	55.0	63.3	69.1
Certificate IV or higher	0.1	0.2	0.4	1.0	1.8	1.9
Not known	4.5	4.9	4.9	3.3	2.0	1.3
Total	**53.2**	**63.5**	**68.6**	**71.3**	**80.3**	**86.4**
Aged 25–39 years						
Certificate I & II	0.8	4.3	7.6	11.3	12.4	12.0
Certificate III	6.8	8.3	10.6	14.3	33.4	39.1
Certificate IV or higher	0.1	0.1	0.3	1.0	3.2	3.3
Not known	1.0	1.7	2.1	1.7	1.1	0.7
Total	**8.7**	**14.4**	**20.5**	**28.3**	**50.1**	**55.1**
Aged 40 years & over						
Certificate I & II	0.2	1.4	2.8	4.8	5.3	5.1
Certificate III	0.7	1.0	2.3	5.5	21.5	25.6
Certificate IV or higher	0.0	0.0	0.1	0.6	2.2	2.1
Not known	0.2	0.4	0.5	0.6	0.3	0.2
Total	**1.2**	**2.8**	**5.6**	**11.5**	**29.3**	**33.0**
Total all ages	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**

* Includes a very small number aged less than 15 years.

Source: NCVER (2000c)

Table 108: Highest level of schooling undertaken by apprentices and trainees and new apprentices, 1995–2000

Highest level of schooling undertaken	Year at 30 June					
	1995	1996	1997	1998	1999	2000
	No. in training ('000)					
Year 12	58.8	66.5	72.9	79.6	104.9	114.4
Year 11	24.1	27.2	30.5	34.9	45.6	49.7
Year 10	43.5	48.1	52.1	59.9	79.0	86.7
Year 9 or lower	4.1	6.4	8.2	10.6	17.2	21.3
Unknown	5.5	8.1	8.0	8.6	8.0	6.5
Total	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**
	Proportion of apprenticeships & traineeships (%)					
Year 12	43.3	42.5	42.4	41.1	41.2	40.4
Year 11	17.7	17.4	17.8	18.0	17.9	18.0
Year 10	32.0	30.8	30.4	30.9	31.0	31.5
Year 9 or lower	3.0	4.1	4.8	5.5	6.8	7.7
Unknown	4.0	5.3	4.7	4.5	3.1	2.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: NCVER (2000c)

Table 109: Highest level of previous education attainment of apprentices and trainees and new apprentices, 1995–2000

Highest education level	**Year at 30 June**					
	1995	1996	1997	1998	1999	2000
	No. in training ('000)					
Degree/postgraduate diploma	0.2	0.4	0.7	1.0	1.9	2.7
Associate diploma/undergraduate diploma	0.2	0.3	0.4	0.7	1.6	2.0
Trade/technical certificate	1.4	1.6	1.9	2.5	5.1	6.7
Other certificate	1.2	2.5	4.2	7.4	12.4	14.5
Other unspecified post-secondary	0.8	0.8	0.8	0.9	3.2	3.7
Year 12	56.8	63.7	68.8	73.5	93.4	97.5
Year 10 or 11	65.8	72.8	79.3	89.1	113.8	122.7
Year 9 or lower	4.0	6.2	7.9	10.1	15.8	19.6
Unknown	5.5	8.3	7.9	8.4	7.6	6.1
Total	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**
	Proportion of apprenticeships & traineeships (%)					
Degree/postgraduate diploma	0.1	0.3	0.4	0.5	0.7	1.0
Associate diploma/undergraduate diploma	0.1	0.2	0.2	0.3	0.6	0.7
Trade/technical certificate	1.1	1.0	1.1	1.3	2.0	2.4
Other certificate	0.9	1.6	2.4	3.8	4.9	5.3
Other unspecified post-secondary	0.6	0.5	0.5	0.5	1.3	1.3
Year 12	41.8	40.7	40.0	38.0	36.7	35.4
Year 10 or 11	48.4	46.5	46.1	46.0	44.7	44.5
Year 9 or lower	2.9	3.9	4.6	5.2	6.2	7.1
Unknown	4.0	5.3	4.6	4.3	3.0	2.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: NCVER (2000c)

Table 110: The State or Territory of apprentices and trainees and new apprentices, 1995–2000

State/Territory	Year at 30 June					
	1995	1996	1997	1998	1999	2000
	No. in training ('000)					
New South Wales	45.0	50.3	51.6	52.9	63.5	77.4
Victoria	32.3	38.5	42.8	47.4	69.7	80.0
Queensland	27.7	32.3	37.0	46.1	56.5	51.3
Western Australia	14.0	15.5	17.7	18.8	19.2	20.2
South Australia	9.2	10.7	12.6	17.3	26.2	28.4
Tasmania	3.8	4.5	4.9	5.5	12.1	10.8
Australian Capital Territory	2.7	3.1	3.3	3.4	5.3	5.0
Northern Territory	1.4	1.7	2.0	2.1	2.3	2.5
Australia	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**
	Proportion of apprenticeships & traineeships (%)					
New South Wales	33.1	32.1	30.0	27.3	24.9	28.1
Victoria	23.8	24.6	24.9	24.5	27.4	29.0
Queensland	20.4	20.6	21.5	23.8	22.2	18.6
Western Australia	10.3	9.9	10.3	9.7	7.6	7.3
South Australia	6.7	6.8	7.3	8.9	10.3	10.3
Tasmania	2.8	2.9	2.8	2.8	4.7	3.9
Australian Capital Territory	2.0	2.0	1.9	1.7	2.1	1.8
Northern Territory	1.0	1.1	1.2	1.1	0.9	0.9
Australia	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: NCVER (2000c)

Table 111: The geographical location of apprentices and trainees and new apprentices, 1995–2000

Geographic region	Year at 30 June					
	1995	1996	1997	1998	1999	2000
	No. in training ('000)					
Capital city	78.2	88.6	98.2	109.0	147.3	163.7
Other metropolitan	10.9	12.5	14.0	15.0	19.1	21.5
Rural area	37.5	44.5	47.8	56.3	73.7	79.4
Remote area	4.4	5.3	6.2	7.2	7.9	7.9
Interstate	2.2	2.5	2.6	2.5	2.4	2.5
Outside Australia	0.0	0.0	0.0	0.0	0.0	0.0
Not known	2.7	3.1	3.1	3.5	4.4	0.5
Total	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**
	Proportion of apprenticeships & traineeships (%)					
Capital city	57.5	56.6	57.1	56.3	57.8	59.4
Other metropolitan	8.0	8.0	8.1	7.8	7.5	7.8
Rural area	27.6	28.4	27.8	29.1	28.9	28.8
Remote area	3.3	3.4	3.6	3.7	3.1	2.9
Interstate	1.6	1.6	1.5	1.3	0.9	0.9
Outside Australia	0.0	0.0	0.0	0.0	0.0	0.0
Not known	2.0	2.0	1.8	1.8	1.7	0.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: NCVER (2000c)

Table 112: Indigenous and non-Indigenous apprentices and trainees and new apprentices, 1995–2000

Aborginality	Year at 30 June					
	1995	1996	1997	1998	1999	2000
	No. in training ('000)					
Indigenous	1.1	2.9	3.8	4.7	4.5	5.1
Non-Indigenous*	134.9	153.7	168.1	188.9	250.2	270.5
Total all persons	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**
	Proportion of apprenticeships & traineeships (%)					
Indigenous	0.8	1.8	2.2	2.4	1.8	1.9
Non-Indigenous*	99.2	98.2	97.8	97.6	98.2	98.1
Total all persons	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* Includes those whose Aboriginality was not stated.

Source: NCVER (2000c)

Table 113: Indigenous and non-Indigenous apprentices and trainees and new apprentices by occupation, 1995–2000

Occupational group	No. in training at June ('000)					
	1995	1996	1997	1998	1999	2000
Indigenous						
Managers & administrators	0.0	0.1	0.1	0.1	0.0	0.0
Professionals & associate professionals	0.0	0.1	0.2	0.4	0.4	0.4
Tradespersons & related workers	0.6	0.8	0.9	1.1	1.4	1.6
Clerical, sales & service workers	0.4	1.5	1.7	2.0	1.8	1.9
Intermediate production & transport workers	0.0	0.1	0.1	0.1	0.1	0.2
Labourers & related workers	0.0	0.3	0.8	1.0	0.9	1.0
Total Indigenous	**1.1**	**2.9**	**3.8**	**4.7**	**4.5**	**5.1**
Non-Indigenous*						
Managers & administrators	1.6	2.3	2.7	2.4	2.5	2.7
Professionals & associate professionals	1.4	2.9	5.0	7.9	8.1	9.0
Tradespersons & related workers	119.6	123.8	123.8	123.0	129.1	137.8
Clerical, sales & service workers	9.8	18.6	26.7	38.8	81.8	79.7
Intermediate production & transport workers	0.5	1.5	2.0	3.3	7.3	11.7
Labourers & related workers	2.0	4.6	7.9	13.6	21.5	29.7
Total non-Indigenous	**134.9**	**153.7**	**168.1**	**188.9**	**250.2**	**270.5**
Total all persons	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**

* Includes those whose Aborginality was not stated.

Source: NCVER (2000c)

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Table 114: Indigenous and non-Indigenous apprentices and trainees and new apprentices by level of qualification, 1995–2000

Level of qualification	No. in training at 30 June ('000)					
	1995	1996	1997	1998	1999	2000
Indigenous						
Certificate I & II	0.3	1.5	2.1	2.8	2.0	2.1
Certificate III	0.5	1.0	1.2	1.8	2.4	2.9
Certificate IV or higher	0.0	0.0	0.0	0.0	0.1	0.1
Not known	0.3	0.3	0.5	0.1	0.0	0.0
Total Indigenous	**1.1**	**2.9**	**3.8**	**4.7**	**4.5**	**5.1**
Non-Indigenous*						
Certificate I & II	9.1	21.7	30.2	42.5	52.1	55.2
Certificate III	113.8	119.8	125.7	135.3	185.8	204.6
Certificate IV or higher	0.3	0.4	1.1	3.4	8.2	8.3
Not known	11.6	11.7	11.1	7.6	4.1	2.3
Total non-Indigenous	134.9	153.7	168.1	188.9	250.2	270.5
Total all persons	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**

* Includes those whose Aborginality was not stated.

Source: NCVER (2000c)

Table 115: The country of birth and language spoken at home by apprentices and trainees and new apprentices, 1995–2000

Country of birth/ languages spoken	Year at 30 June					
	1995	1996	1997	1998	1999	2000
	No. in training ('000)					
Country of birth						
English-speaking countries	105.5	124.6	140.3	167.1	228.6	253.8
Other countries	3.3	4.1	5.4	7.3	13.6	15.7
Not known	27.2	27.8	26.2	19.1	12.6	6.2
Total	135.9	156.5	171.9	193.6	254.8	275.6
Main language spoken at home						
English	67.8	85.9	103.1	130.5	203.9	233.5
Other languages	5.6	6.8	8.0	9.1	16.3	19.0
Not known	62.5	63.8	60.8	53.9	34.6	23.1
Total	135.9	156.5	171.9	193.6	254.8	275.6
	Proportion of apprentices & trainees (%)					
Country of birth						
English-speaking countries	77.6	79.6	81.6	86.3	89.7	92.1
Other countries	2.4	2.6	3.2	3.8	5.3	5.7
Not known	20.0	17.8	15.2	9.9	4.9	2.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Main language spoken at home						
English	49.9	54.9	60.0	67.4	80.0	84.7
Other languages	4.1	4.3	4.6	4.7	6.4	6.9
Not known	46.0	40.7	35.4	27.8	13.6	8.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: NCVER (2000c)

Table 116: The number of apprentices and trainees and new apprentices of non-English-speaking background by occupation, 1995–2000

Occupational group	No. in training at 30 June ('000)					
	1995	1996	1997	1998	1999	2000
Non-English-speaking background						
Managers & administrators	0.0	0.0	0.0	0.0	0.0	0.1
Professionals & associate professionals	0.1	0.2	0.3	0.5	0.5	0.5
Tradespersons & related workers	5.1	5.5	5.6	5.6	6.6	7.3
Clerical, sales & service workers	0.4	0.9	1.6	2.2	6.1	6.6
Intermediate production & transport workers	0.0	0.0	0.1	0.1	0.5	0.9
Labourers & related workers	0.0	0.1	0.4	0.7	2.6	3.6
Total	**5.6**	**6.8**	**8.0**	**9.1**	**16.3**	**19.0**
English-speaking background*						
Managers & administrators	1.6	2.3	2.7	2.4	2.4	2.7
Professionals & associate professionals	1.3	2.9	4.9	7.8	8.0	8.8
Tradespersons & related workers	115.1	119.1	119.1	118.5	124.0	132.1
Clerical, sales & service workers	9.9	19.1	26.9	38.6	77.5	74.9
Intermediate production & transport workers	0.5	1.5	2.0	3.3	6.9	11.0
Labourers & related workers	2.0	4.8	8.3	13.9	19.8	27.0
Total	**130.3**	**149.7**	**163.9**	**184.4**	**238.5**	**256.6**
Total all persons	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**

* Persons whose main language spoken at home is English and all persons who did not state they were of non-English-speaking background.

Source: NCVER (2000c)

Table 117: The number of apprentices and trainees and new apprentices of non-English-speaking background by level of qualification, 1995–2000

Level of qualification	No. in training at 30 June ('000)					
	1995	1996	1997	1998	1999	2000
Non-English-speaking background						
Certificate I & II	0.3	0.9	1.3	2.1	3.5	4.2
Certificate III	4.9	5.3	6.0	6.5	12.3	14.2
Certificate IV or higher	0.0	0.0	0.1	0.2	0.4	0.5
Not known	0.5	0.5	0.6	0.3	0.1	0.1
Total	**5.6**	**6.8**	**8.0**	**9.1**	**16.3**	**19.0**
English-speaking background*						
Certificate I & II	9.1	22.3	30.9	43.2	50.6	53.1
Certificate III	109.5	115.5	120.9	130.6	175.9	193.3
Certificate IV or higher	0.3	0.4	1.0	3.2	7.9	7.9
Not known	11.5	11.5	11.0	7.4	4.0	2.3
Total	**130.3**	**149.7**	**163.9**	**184.4**	**238.5**	**256.6**
Total all persons	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**

* Persons whose main language spoken at home is English and all persons who did not state they were of non-English-speaking background.

Source: NCVER (2000c)

Table 118: Apprentices and trainees and new apprentices with a disability, 1995–2000

Disability	Year at 30 June ('000)					
	1995	1996	1997	1998	1999	2000
	No. in training ('000)					
Disability	1.0	1.6	2.4	3.5	5.0	5.6
No disability*	134.9	154.9	169.5	190.0	249.7	270.0
Total	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**
	Proportion of apprentices & trainees (%)					
Disability	0.8	1.0	1.4	1.8	2.0	2.0
No disability*	99.2	99.0	98.6	98.2	98.0	98.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* Includes any undisclosed disabilities/disability not stated.

Source: NCVER (2000c)

Table 119: The number of apprentices and trainees with a disability by occupation, 1995–2000

Occupational group	No. in training at 30 June ('000)					
	1995	1996	1997	1998	1999	2000
With a disability						
Managers & administrators	0.0	0.0	0.0	0.0	0.0	0.1
Professionals & associate professionals	0.0	0.1	0.2	0.3	0.3	0.3
Tradespersons & related workers	0.8	1.1	1.3	1.7	2.1	2.7
Clerical, sales & service workers	0.2	0.3	0.5	0.9	1.7	1.4
Intermediate production & transport workers	0.0	0.1	0.1	0.1	0.2	0.3
Labourers & related workers	0.0	0.1	0.3	0.5	0.7	0.9
Total	**1.0**	**1.6**	**2.4**	**3.5**	**5.0**	**5.6**
No disability*						
Managers & administrators	1.6	2.3	2.7	2.4	2.4	2.7
Professionals & associate professionals	1.4	3.0	5.1	8.0	8.2	9.1
Tradespersons & related workers	119.4	123.4	123.4	122.4	128.4	136.7
Clerical, sales & service workers	10.1	19.8	27.9	39.9	82.0	80.1
Intermediate production & transport workers	0.5	1.5	2.0	3.3	7.2	11.6
Labourers & related workers	2.0	4.9	8.4	14.1	21.6	29.8
Total	**134.9**	**154.9**	**169.5**	**190.0**	**249.7**	**270.0**
Total all persons	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**

* Includes any undisclosed disability/disability not stated.

Source: NCVER (2000c)

Table 120: The number of apprentices and trainees and new apprentices with a disability by level of qualification, 1995–2000

Level of qualification	No. in training at 30 June ('000)					
	1995	1996	1997	1998	1999	2000
With a disability						
Certificate I & II	0.2	0.4	0.8	1.3	1.6	1.5
Certificate III	0.7	1.0	1.4	2.0	3.3	3.9
Certificate IV or higher	0.0	0.0	0.0	0.0	0.1	0.1
Not known	0.2	0.2	0.2	0.1	0.1	0.0
Total	**1.0**	**1.6**	**2.4**	**3.5**	**5.0**	**5.6**
No disability*						
Certificate I & II	9.2	22.9	31.5	44.0	52.6	55.8
Certificate III	113.7	119.8	125.6	135.1	184.9	203.6
Certificate IV or higher	0.3	0.4	1.1	3.4	8.2	8.3
Not known	11.7	11.8	11.4	7.6	4.1	2.3
Total	**134.9**	**154.9**	**169.5**	**190.0**	**249.7**	**270.0**
Total all persons	**135.9**	**156.5**	**171.9**	**193.6**	**254.8**	**275.6**

* Includes any undisclosed disabilities/disability not stated.

Source: NCVER (2000c)

Table 121: Apprenticeship and traineeship and new apprenticeship completions by level of qualification, 1995–2000

Level of qualification	12 months ending 30 June					
	1995	1996	1997	1998	1999	2000
	No. of completions ('000)					
Certificate I	0.0	0.3	0.2	0.2	0.2	0.1
Certificate II	7.7	5.7	13.6	17.2	21.4	20.8
Certificate III	21.2	22.0	26.2	32.3	37.4	48.6
Certificate IV or higher	0.0	0.2	0.2	0.5	1.6	3.3
Not known	4.1	3.6	4.1	3.8	1.8	0.9
Total	**32.9**	**31.7**	**44.3**	**53.9**	**62.4**	**73.7**
	Proportion of completions (%)					
Certificate I	0.0	0.8	0.5	0.4	0.3	0.1
Certificate II	23.3	18.0	30.7	31.8	34.4	28.2
Certificate III	64.3	69.5	59.1	59.8	59.9	66.0
Certificate IV or higher	0.1	0.5	0.4	0.9	2.5	4.5
Not known	12.3	11.2	9.3	7.0	2.9	1.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: NCVER (2000c)

Table 122: Apprenticeship and traineeship and new apprenticeship completions by occupation, 1995–2000

Occupational group	12 months ending 30 June					
	1995	1996	1997	1998	1999	2000
	No. of completions ('000)					
Managers & administrators	0.3	0.5	1.0	1.3	1.1	0.8
Professionals	0.0	0.1	0.1	0.2	0.8	0.6
Associate professionals	0.3	0.5	1.4	2.3	3.4	2.7
Tradespersons & related workers	23.4	22.6	25.4	27.6	26.4	25.7
Advanced clerical & service workers	0.1	0.1	0.1	0.1	0.1	0.0
Intermediate clerical, sales & service workers	5.6	5.4	10.3	13.7	17.4	23.4
Elementary clerical, sales & service workers	0.2	0.2	0.8	1.0	1.4	2.5
Intermediate production & transport workers	2.1	1.5	3.0	3.8	5.5	11.8
Labourers & related workers	0.8	0.9	2.2	3.8	6.3	6.1
Total	**32.9**	**31.7**	**44.3**	**53.9**	**62.4**	**73.7**
	Proportion of completions (%)					
Manager & administrators	1.0	1.5	2.2	2.5	1.8	1.1
Professionals	0.0	0.4	0.3	0.4	1.3	0.8
Associate professionals	0.9	1.5	3.2	4.3	5.4	3.7
Tradespersons & related workers	71.2	71.1	57.2	51.2	42.3	34.9
Advanced clerical & service workers	0.3	0.2	0.3	0.2	0.2	0.0
Intermediate clerical, sales & service workers	17.0	17.0	23.1	25.4	27.9	31.7
Elementary clerical, sales & service workers	0.7	0.6	1.9	1.8	2.3	3.4
Intermediate production & transport workers	6.3	4.9	6.8	7.1	8.8	16.0
Labourers & related workers	2.6	2.8	5.0	7.1	10.1	8.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: NCVER (2000c)

Table 123: Apprenticeship and traineeship and new apprenticeship completions in the skilled trades, 1995–2000

Skilled trades		12 months ending 30 June					
		1995	1996	1997	1998	1999	2000
		No. of completions ('000)					
41	Mechanical & fabrication engineering tradespersons	4.7	4.0	4.3	4.8	4.9	5.1
42	Automotive tradespersons	3.9	3.7	4.4	4.9	4.9	4.4
43	Electrical & electronics tradespersons	3.7	3.3	3.3	3.6	3.6	3.8
44	Construction tradespersons	4.4	4.6	5.8	6.2	5.4	4.3
45	Food tradespersons	2.4	2.5	2.7	2.9	2.8	3.7
46	Skilled agricultural & horticultural workers	0.7	0.7	0.7	0.7	0.7	0.7
49	Other tradespersons & related workers	3.6	3.7	4.2	4.5	4.1	3.7
	Total	**23.4**	**22.6**	**25.4**	**27.6**	**26.4**	**25.7**
		Proportion of completions (%)					
41	Mechanical & fabrication engineering tradespersons	20.2	17.9	16.9	17.4	18.7	19.8
42	Automotive tradespersons	16.9	16.6	17.2	17.8	18.5	17.2
43	Electrical & electronics tradespersons	15.9	14.4	13.0	13.0	13.5	14.7
44	Construction tradespersons	18.8	20.6	22.8	22.5	20.6	16.9
45	Food tradespersons	10.2	11.0	10.8	10.4	10.7	14.3
46	Skilled agricultural & horticultural workers	2.8	3.1	2.7	2.6	2.5	2.7
49	Other tradespersons & related workers	15.3	16.4	16.5	16.3	15.4	14.4
	Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: NCVER (2000c)

Table 124: Apprentices and trainees and new apprentices completions by gender, 1995–2000

Gender	12 months ending 30 June					
	1995	1996	1997	1998	1999	2000
	No. of completions ('000)					
Males	23.9	23.2	31.3	36.9	39.2	42.6
Females	9.0	8.5	13.0	17.1	23.1	31.1
Persons	**32.9**	**31.7**	**44.3**	**53.9**	**62.4**	**73.7**
	Proportion of completions (%)					
Males	72.5	73.2	70.6	68.3	62.9	57.8
Females	27.5	26.8	29.4	31.7	37.1	42.2
Persons	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: NCVER (2000c)

Table 125: Apprenticeship and traineeship and new apprenticeship completions by age, 1995–2000

Age	12 months ending 30 June					
	1995	1996	1997	1998	1999	2000
	No. of completions ('000)					
15–19 years*	5.6	4.7	7.1	8.2	9.4	11.2
20–24 years	24.5	23.1	29.1	33.1	33.4	33.6
25–39 years	2.5	3.4	6.6	9.4	12.8	17.2
40 years & over	0.3	0.5	1.5	3.2	6.8	11.7
Total	**32.9**	**31.7**	**44.3**	**53.9**	**62.4**	**73.7**
	Proportion of total completions (%)					
15–19 years*	16.9	14.9	16.0	15.2	15.1	15.2
20–24 years	74.5	72.7	65.7	61.3	53.5	45.6
25–39 years	7.6	10.8	14.8	17.5	20.5	23.4
40 years & over	1.0	1.6	3.4	5.9	10.9	15.9
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* Includes a very small number aged less than 15 years.
Source: NCVER (2000c)

Table 126: Apprenticeship and traineeship and new apprenticeship completions by males by age, 1995–2000

Age	12 months ending 30 June					
	1995	1996	1997	1998	1999	2000
	No. of completions ('000)					
15–19 years*	2.1	1.9	3.2	3.9	4.5	4.9
20–24 years	19.3	18.2	22.5	25.2	24.5	23.4
25–39 years	2.2	2.7	4.6	6.4	7.9	9.6
40 years & over	0.3	0.4	0.9	1.4	2.4	4.7
Total	**23.9**	**23.2**	**31.3**	**36.9**	**39.2**	**42.6**
	Proportion of completions (%)					
15–19 years*	8.9	8.2	10.4	10.5	11.4	11.4
20–24 years	81.0	78.4	71.9	68.3	62.4	55.0
25–39 years	9.1	11.8	14.8	17.5	20.1	22.5
40 years & over	1.1	1.5	3.0	3.7	6.2	11.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* Includes a very small number aged less than 15 years.

Source: NCVER (2000c)

Table 127: Apprenticeship and traineeship and new apprenticeship completions by females by age, 1995–2000

Age	12 months ending 30 June					
	1995	1996	1997	1998	1999	2000
	No. of completions ('000)					
15–19 years*	3.5	2.8	3.9	4.3	4.9	6.3
20–24 years	5.2	4.8	6.6	7.9	8.9	10.1
25–39 years	0.3	0.7	1.9	3.0	4.9	7.6
40 years & over	0.1	0.2	0.6	1.8	4.4	7.0
Total	**9.0**	**8.5**	**13.0**	**17.1**	**23.1**	**31.1**
	Proportion of completions (%)					
15–19 years*	38.2	33.2	29.7	25.4	21.3	20.4
20–24 years	57.3	56.8	51.0	46.3	38.5	32.6
25–39 years	3.8	8.1	14.7	17.6	21.2	24.6
40 years & over	1.7	1.8	4.6	10.7	19.0	22.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* Includes a very small number aged less than 15 years.

Source: NCVER (2000c)

Table 128: The highest level of previous education attainment of completing apprentices and trainees and new apprentices, 1995–2000

Highest previous educational attainment	12 months ending 30 June					
	1995	1996	1997	1998	1999	2000
	No. of completions ('000)					
Tertiary						
Degree/postgraduate diploma	0.0	0.1	0.4	0.4	0.6	0.8
Associate diploma/undergraduate diploma	0.0	0.0	0.1	0.2	0.3	0.5
Trade/technician certificate	0.3	0.3	0.4	0.7	1.0	1.4
Other certificate	0.1	0.2	0.8	1.5	3.1	4.6
Unspecified post-secondary	0.1	0.1	0.1	0.2	0.5	1.5
Sub-total tertiary	*0.5*	*0.7*	*1.8*	*3.0*	*5.6*	*8.8*
Schooling						
Year 12	13.1	13.7	19.9	24.5	25.6	29.4
Year 10 or 11	17.4	15.3	18.9	22.3	25.8	30.4
Year 9 or lower	0.7	0.8	1.5	2.1	2.9	3.5
Sub-total secondary schooling	*31.2*	*29.7*	*40.4*	*48.9*	*54.3*	*63.2*
Unknown	1.2	1.3	2.2	2.1	2.5	1.6
Total	**32.9**	**31.7**	**44.3**	**53.9**	**62.4**	**73.7**
	Proportion of completions (%)					
Tertiary						
Degree/postgraduate diploma	0.1	0.3	0.8	0.7	1.0	1.1
Associate diploma/undergraduate diploma	0.1	0.2	0.3	0.3	0.5	0.7
Trade/technician certificate	0.8	0.9	0.9	1.3	1.6	2.0
Other certificate	0.3	0.7	1.7	2.8	5.0	6.3
Unspecified post-secondary	0.2	0.3	0.3	0.3	0.7	2.0
Sub-total tertiary	*1.5*	*2.3*	*4.0*	*5.5*	*8.9*	*12.0*
Schooling						
Year 12	39.9	43.2	45.0	45.4	41.0	39.9
Year 10 or 11	52.9	48.2	42.6	41.3	41.4	41.2
Year 9 or lower	2.1	2.4	3.5	3.9	4.6	4.7
Sub-total secondary schooling	*94.8*	*93.8*	*91.0*	*90.6*	*87.0*	*85.8*
Unknown	3.7	4.0	5.0	3.9	4.1	2.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: NCVER (2000c)

Table 129: Apprenticeship and traineeship and new apprenticeship completions by State and Territory, 1995–2000

State/Territory	12 months ending 30 June					
	1995	1996	1997	1998	1999	2000
	No. of completions ('000)					
New South Wales	12.6	11.0	14.4	15.8	16.8	16.6
Victoria	6.6	6.8	10.6	12.5	11.5	15.2
Queensland	5.7	6.1	9.2	12.8	17.8	19.9
Western Australia	3.1	3.1	3.9	5.2	6.1	6.7
South Australia	2.5	2.4	3.0	3.8	5.3	6.0
Tasmania	1.4	1.2	1.7	2.1	2.8	5.8
Australian Capital Territory	0.7	0.7	1.0	1.1	1.3	2.6
Northern Territory	0.4	0.3	0.5	0.7	0.8	0.9
Australia	**32.9**	**31.7**	**44.3**	**53.9**	**62.4**	**73.7**
	Proportion of completions (%)					
New South Wales	38.4	34.7	32.4	29.3	27.0	22.6
Victoria	20.0	21.5	23.9	23.2	18.4	20.6
Queensland	17.4	19.3	20.8	23.8	28.5	27.1
Western Australia	9.3	9.8	8.8	9.6	9.7	9.1
South Australia	7.6	7.6	6.8	7.0	8.4	8.1
Tasmania	4.2	3.8	3.8	4.0	4.5	7.8
Australian Capital Territory	2.1	2.2	2.4	2.0	2.1	3.5
Northern Territory	1.1	1.1	1.1	1.3	1.3	1.2
Australia	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: NCVER (2000c)

Table 130: Apprenticeship and traineeship and new apprenticeship completions by geographic location, 1995–2000

Geographic location	12 months ending 30 June					
	1995	1996	1997	1998	1999	2000
	No. of completions ('000)					
Capital city	19.0	18.0	24.0	28.9	33.0	39.6
Other metropolitan	2.8	2.6	3.7	4.9	5.2	5.6
Rural area	9.4	9.3	14.2	17.1	20.9	25.0
Remote area	1.1	1.1	1.5	1.9	2.3	2.6
Other*	0.7	0.7	1.0	1.1	1.0	0.9
Total	**32.9**	**31.7**	**44.3**	**53.9**	**62.4**	**73.7**
	Proportion of completions (%)					
Capital city	57.6	56.7	54.0	53.6	52.9	53.7
Other metropolitan	8.4	8.2	8.3	9.0	8.3	7.6
Rural area	28.6	29.3	32.1	31.8	33.6	34.0
Remote area	3.3	3.5	3.4	3.6	3.6	3.5
Other*	2.1	2.2	2.2	2.1	1.6	1.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* Includes interstate, overseas and not stated.

Source: NCVER (2000c)

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Table 131: Apprenticeship and traineeship and new apprenticeship completions by target group, 1995–2000

Target group	**12 months ending 30 June**					
	1995	1996	1997	1998	1999	2000
	No. of completions ('000)					
Aboriginality						
Indigenous	0.1	0.2	0.9	1.3	1.7	1.2
Non-Indigenous[a]	32.8	31.5	43.4	52.7	60.7	72.4
Total	**32.9**	**31.7**	**44.3**	**53.9**	**62.4**	**73.7**
Main language spoken at home						
Non-English-speaking	1.1	1.2	1.8	2.4	2.9	3.7
English speaking[b]	31.8	30.5	42.6	51.6	59.4	70.0
Total	**32.9**	**31.7**	**44.3**	**53.9**	**62.4**	**73.7**
Country of birth						
English speaking[c]	32.3	31.1	43.2	52.3	59.8	70.3
Other countries	0.6	0.6	1.1	1.7	2.5	3.3
Total	**32.9**	**31.7**	**44.3**	**53.9**	**62.4**	**73.7**
Disability						
With a disability	0.1	0.2	0.3	0.6	1.2	1.3
No disability[d]	32.8	31.5	44.0	53.3	61.2	72.3
Total	**32.9**	**31.7**	**44.3**	**53.9**	**62.4**	**73.7**

(a) Includes those whose Aboriginality was not stated.

(b) Includes those whose language spoken at home was not stated.

(c) Includes those whose country of birth was not stated.

(d) Includes those who did not disclose any disability.

Source: NCVER (2000c)

Table 132: Ratios of completions to commencements of apprenticeships and traineeships, 1970–1997

Apprenticeships			Traineeships		
Year of intake	Year of completion	Ratio of completions to commencements 4 years earlier (%)	Year of intake	Year of completion	Ratio of completions to commencements 4 years earlier (%)
1970	1974	69.2	–	–	–
1971	1975	80.7	–	–	–
1972	1976	79.2	–	–	–
1973	1977	91.8	–	–	–
1974	1978	56.4	–	–	–
1975	1979	86.2	–	–	–
1976	1980	79.0	–	–	–
1977	1981	88.6	–	–	–
1978	1982	70.7	–	–	–
1979	1983	78.4	–	–	–
1980	1984	74.4	–	–	–
1981	1985	74.8	–	–	–
1982	1986	79.8	–	–	–
1983	1987	76.2	1986	1987	63.6
1984	1988	78.6	1987	1988	60.3
1985	1989	61.7	1988	1989	60.0
1986	1990	62.2	1989	1990	59.7
1987	1991	61.8	1990	1991	59.7
1988	1992	65.6	1991	1992	60.4
1989	1993	63.2	1992	1993	59.6
1990	1994	55.1	1993	1994	60.0
1991	1995	53.3	1994	1995	100.0
1992	1996	57.3	1995	1996	54.5
1993	1997	59.0	1996	1997	50.6

Source: DEIR (1986); DEYA (1980); NCVER (2000a, 2000b, 2000c)

Table 133: Employment and labour force status at end May of all persons who gained a qualification from TAFE in the previous year and who were an apprentice or a trainee

Category	Labour force status at end May (%)			
	1997	1998	1999	2000
Employed				
Employed full-time	85.6	88.3	87.6	87.5
Employed part-time	5.2	4.6	4.9	6.1
Total employed	**90.8**	**92.9**	**92.5**	**93.6**
Unemployed				
Unemployed & looking for full-time work	4.8	3.4	3.4	2.5
Unemployed & looking for part-time work	0.7	0.5	0.8	0.5
Total unemployed	**5.5**	**3.9**	**4.2**	**3.0**
Not in the labour force	3.6	3.3	3.2	3.5
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source: Unpublished data from the NCVER student outcomes survey 2000

Table 134: The level of qualifications of persons employed at end May 2000 who gained a qualification from a TAFE course as a new apprentice during 1999

Level of qualification	Proportion (%)
Certificate I & II	16.9
Certificate III	76.4
Certificate IV	4.7
Diploma or advanced diploma	2.0
Total	**100.0**

Source: Unpublished data from the NCVER student outcomes survey 2000

Table 135: The number of employed persons aged 15 to 64 years by occupation and highest level of qualification held, 2000

Occupation	Highest level of qualification held ('000)									
	Higher degree & postgraduate diploma	Bachelor degree	Under-graduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	Total with a post-school qualification	No post-school qualification	Still at school	Total population aged 15–64 years
Managers & administrators	43.9	115.9	38.9	27.4	80.2	41.6	347.9	235.6	0.4	583.9
Professionals	311.5	744.2	204.7	64.8	48.5	45.8	1419.7	207.8	1.9	1629.4
Associate professionals	47.6	134.5	80.6	71.3	135.9	95.1	565.0	425.5	4.1	994.6
Tradespersons & related workers	5.6	20.5	19.5	28.8	611.4	86.4	772.2	411.8	3.6	1187.6
Advanced clerical, & service workers	10.1	27.6	23.2	13.4	10.9	86.3	171.5	197.1	1.4	370.0
Intermediate clerical, sales & service workers	25.8	111.7	83.5	64.3	104.3	242.9	632.5	899.2	22.8	1554.5
Intermediate production & transport workers	2.2	25.0	13.0	12.6	108.7	53.0	214.5	563.5	12.9	790.9
Elementary clerical, sales & service workers	9.4	37.1	29.1	15.8	38.7	61.0	191.1	543.4	126.4	860.9
Labourers & related workers	2.9	25.5	11.9	11.5	80.4	59.2	191.4	605.9	55.3	852.6
Total employed	**459.0**	**1242.4**	**504.3**	**310.0**	**1218.8**	**771.3**	**4505.8**	**4089.8**	**228.8**	**8824.5**

Table 136: The proportion of employed persons aged 15 to 64 years by occupation and highest level of qualification held, 2000

Occupation	Highest level of qualification held (%)									
	Higher degree & postgraduate diploma	Bachelor degree	Under-graduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	Total with a post-school qualification	No post-school qualification	Still at school	Total population aged 15–64 years
Managers & administrators	7.5	19.9	6.7	4.7	13.7	7.1	59.6	40.3	0.1	100.0
Professionals	19.1	45.7	12.6	3.9	3.0	2.8	87.1	12.8	0.1	100.0
Associate professionals	4.8	13.5	8.1	7.2	13.7	9.6	56.9	42.7	0.4	100.0
Tradespersons & related workers	0.5	1.7	1.7	2.4	51.5	7.2	65.0	34.7	0.3	100.0
Advanced clerical, & service workers	2.7	7.5	6.3	3.6	3.0	23.3	46.4	53.3	0.3	100.0
Intermediate clerical, sales & service workers	1.7	7.2	5.4	4.1	6.7	15.6	40.7	57.8	1.5	100.0
Intermediate production & transport workers	0.3	3.2	1.6	1.6	13.7	6.7	27.1	71.3	1.6	100.0
Elementary clerical, sales & service workers	1.1	4.3	3.4	1.8	4.5	7.1	22.2	63.1	14.7	100.0
Labourers & related workers	0.1	3.0	1.4	1.3	9.4	6.9	22.4	71.1	6.5	100.0
Total employed	**5.2**	**14.1**	**5.7**	**3.5**	**13.8**	**8.8**	**51.1**	**46.3**	**2.6**	**100.0**

Table 137: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 census

Personal & other services	Bachelor degree or higher	Under-graduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (no quals)	Total
ASCO code & occupation									
100 Managers & administrators nfd	399	96	77	280	80	932	153	990	2075
110 Generalist managers nfd	0	0	3	0	0	3	0	0	3
111 General managers & administrators	665	104	98	199	57	1123	106	661	1890
119 Miscellaneous generalist managers	17	8	17	74	7	123	17	89	229
120 Specialist managers nfd	58	15	14	15	7	109	12	53	174
121 Resource managers	635	118	109	98	77	1037	100	600	1737
122 Engineering, distribution & process managers	174	36	34	108	26	378	42	270	690
123 Sales & marketing managers	265	44	39	75	54	477	60	380	917
129 Miscellaneous specialist managers	1058	162	312	400	172	2104	344	1050	3498
131 Farmers & farm managers	33	21	23	73	32	182	32	219	433
200 Professionals nfd	276	28	14	9	19	346	22	84	452
210 Science, building & engineering profs nfd	0	0	0	0	0	0	0	0	0
211 Natural & physical science professionals	244	22	29	23	11	329	16	91	436
212 Building & engineering professionals	187	30	33	51	16	317	15	57	389
220 Business & information professionals nfd	9	8	3	3	0	23	0	12	35
221 Accountants, auditors & corporate treasurers	635	75	204	14	22	950	79	261	1290
222 Sales, marketing & advertising profs	339	45	39	53	38	514	49	406	969

Table 137: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 census (cont.)

Personal & other services	Bachelor degree or higher	Under-graduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (no quals)	Total
223 Computing professionals	367	38	57	27	25	514	44	248	806
229 Miscellaneous business & information professionals	1 983	218	251	526	202	3 180	252	1 675	5 107
230 Health professionals nfd	0	0	0	0	0	0	0	0	0
231 Medical practitioners	98	5	3	6	4	116	4	18	138
232 Nursing professionals	286	351	19	3	35	694	64	51	809
238 Miscellaneous health professionals	254	31	8	12	9	314	32	57	403
240 Education professionals nfd	22	3	3	3	0	31	0	5	36
241 School teachers	577	178	66	8	12	841	42	173	1 056
242 University & vocational education teachers	383	50	28	41	14	516	35	103	654
249 Miscellaneous education professionals	825	169	79	90	45	1 208	102	590	1 900
250 Social, arts & misc. professionals nfd	6	3	0	0	0	9	0	3	12
251 Social welfare professionals	6 962	1 797	651	543	404	10 357	1 231	2 363	13 951
252 Miscellaneous social professionals	478	31	41	43	39	632	68	278	978
253 Artists & related professionals	965	468	253	404	321	2 411	513	2 464	5 388
254 Miscellaneous professionals	242	84	39	45	29	439	52	205	696
300 Associate professionals nfd	22	8	16	27	21	94	15	109	218
310 Science/engineering & related assoc. profs nfd	4	3	12	16	4	39	0	14	53
311 Medical & science technical officers	117	18	31	50	33	249	27	132	408
312 Building/engineering associate profs	27	21	71	188	15	322	25	73	420

Table 137: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 census (cont.)

Personal & other services	Bachelor degree or higher	Under-graduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (no quals)	Total
320 Business & administrative assoc. profs nfd	3	0	4	0	0	7	0	12	19
321 Finance associate professionals	117	24	36	15	31	223	31	270	524
329 Misc. business/admin. assoc. profs	1 166	275	320	334	378	2 473	424	2 633	5 530
330 Managing supervisors (sales & service) nfd	3	4	3	17	3	30	0	27	57
331 Shop managers	347	167	152	735	188	1 589	383	3 370	5 342
332 Hospitality & accommodation managers	41	22	19	136	15	233	34	199	466
339 Misc. mgr supervisors (sales & service)	394	197	180	1 241	225	2 237	404	2 700	5 341
340 Health & welfare assoc. professionals nfd	0	0	3	0	0	3	0	3	6
341 Enrolled nurses	16	12	21	4	64	117	10	28	155
342 Welfare associate professionals	444	117	238	154	154	1 107	150	678	1 935
349 Misc. health & welfare assoc. profs	61	60	51	37	61	272	60	227	559
390 Other associate professionals nfd	0	0	0	0	3	3	0	0	3
391 Police officers	2 633	849	2 606	4 787	1 928	12 803	4 089	20 016	36 908
399 Miscellaneous associate professionals	113	52	83	260	57	565	165	584	1 314
400 Tradespersons & related workers nfd	4	3	3	118	5	133	14	84	231
410 Mechanical/fabrication engineering trades nfd	0	0	0	5	0	5	0	0	5
411 Mechanical engineering tradespersons	6	5	5	292	9	317	18	106	441
412 Fabrication engineering tradespersons	0	0	3	114	5	122	15	70	207
421 Automotive tradespersons	8	7	19	983	18	1 035	56	177	1 268
431 Electrical & electronic trades	22	16	20	287	18	363	28	212	603

Table 137: Educational attainment of employed persons by industry, occupation (

Personal & other services	Bachelor degree or higher	Under-graduate diploma	Associate diploma
440 Construction tradespersons nfd	0	0	0
441 Structural construction trades	3	3	6
442 Final finishes construction trades	0	3	0
443 Plumbers	0	0	3
451 Food tradespersons	21	16	3
460 Skilled agricultural/horticultural workers nfd	0	0	0
461 Skilled agricultural workers	10	5	4
462 Horticultural tradespersons	378	222	308
490 Other tradespersons & related workers nfd	0	0	3
491 Printing tradespersons	8	5	6
492 Wood tradespersons	3	0	0
493 Hairdressers	101	105	143
494 Textile, clothing & related trades	9	7	8
498 Misc. tradespersons & related workers	247	151	248
500 Advanced clerical & service workers nfd	3	0	0
511 Secretaries & personal assistants	408	296	236
590 Other advanced clerical service workers nfd	0	0	0
591 Advanced numerical clerks	137	76	104
599 Misc. advanced clerical & service workers	91	50	40

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3-digit ASCO) and type of post-school qualification at 1996 census (cont.)

Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (no quals)	Total
3	0	3	0	3	6
233	9	254	26	188	468
89	7	99	19	129	247
127	3	133	20	119	272
66	14	120	41	261	422
0	0	0	0	0	0
20	7	46	11	106	163
1 862	416	3 186	592	5 984	9 762
36	0	39	3	5	47
74	3	96	15	97	208
27	0	30	8	32	70
28 354	622	29 325	2 160	7 183	38 668
49	15	88	36	213	337
2 440	246	3 332	983	3 023	7 338
0	0	3	3	3	9
127	810	1 877	905	3 789	6 571
0	0	0	0	0	0
52	105	474	164	1 199	1 837
98	60	339	77	651	1 067

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Table 137: Educational attainment of employed persons by industry, occupation

Personal & other services	Bachelor degree or higher	Under-graduate diploma	Associate diploma
600 Intermediate clerical, sales & service workers nfd	7	7	3
610 Intermediate clerical workers nfd	6	0	3
611 General clerks	443	180	218
612 Keyboard operators	134	64	67
613 Receptionists	100	75	55
614 Intermediate numerical clerks	147	38	137
615 Material record & despatch clerks	46	14	31
619 Misc. intermediate clerical workers	181	45	60
621 Intermediate sales & related workers	64	25	37
630 Intermediate service workers nfd	0	0	4
631 Carers & aides	580	373	308
632 Hospitality workers	41	5	14
639 Misc. intermediate service workers	841	658	956
700 Intermediate production & transport workers nfd	0	0	0
710 Intermediate plant operators nfd	0	0	0
711 Mobile plant operators	3	4	0
712 Intermediate stationary plant operators	6	3	4
720 Intermediate machine operators nfd	17	7	6
721 Intermediate textile/clothing/related machine operators	6	10	5

(3-digit ASCO) and type of post-school qualification at 1996 census (cont.)

Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (no quals)	Total
4	5	26	11	36	73
3	0	12	0	12	24
221	477	1 539	583	4 231	6 353
48	199	512	269	1 551	2
130	198	558	274	1 756	2 588
44	123	489	130	1 097	1 716
88	32	211	50	653	914
113	90	489	111	869	1 469
115	47	288	65	548	901
0	3	7	0	18	25
497	390	2 148	701	4 610	7 459
22	13	95	31	374	500
3 381	646	6 482	3 083	7 375	16 940
33	3	36	14	136	186
18	0	18	10	79	107
94	13	114	39	393	546
59	26	98	19	215	332
65	9	104	62	468	634
28	9	58	26	231	315

Table 137: Educational attainment of employed persons by industry, occupatio

Personal & other services	Bachelor degree or higher	Under-graduate diploma	Associat diploma
729 Misc. intermediate machine operators	214	100	99
731 Road & rail transport drivers	49	42	30
790 Other intermediate production & transport workers nfd	0	0	0
791 Intermediate mining & construction workers	0	0	0
799 Miscellaneous intermediate production & transport workers	38	18	19
800 Elementary clerical, sales & service workers nfd	0	0	0
811 Elementary clerks	81	32	26
820 Elementary sales workers nfd	3	0	0
821 Sales assistants	342	137	149
829 Miscellaneous elementary sales workers	82	35	36
831 Elementary clerks	378	170	156
900 Labourers & related workers nfd	14	6	11
911 Cleaners	192	143	95
920 Factory labourers nfd	0	0	0
921 Process workers	14	3	5
922 Product packagers	12	5	6
990 Other labourers & related workers nfd	0	3	3
991 Mining, construction & related labourers	3	4	4

n (3-digit ASCO) and type of post-school qualification at 1996 census (cont.)

e	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (no quals)	Total
	201	142	756	268	2300	3 324
	990	84	1 195	341	4 269	5 805
	0	0	0	0	0	0
	10	7	17	7	38	62
	111	33	219	79	726	1 024
	6	3	9	3	49	61
	43	82	264	100	854	1 218
	0	3	6	3	24	33
	360	251	1 239	687	7 501	9 427
	99	47	299	100	1 128	1 527
	853	256	1 813	941	8 669	11 423
	74	12	117	52	617	786
	733	201	1 364	516	5 247	7 127
	0	0	0	0	0	0
	28	9	59	34	256	349
	11	6	40	26	228	294
	9	5	20	9	66	95
	65	14	90	32	405	527

Table 137: Educational attainment of employed persons by industry, occupation

Personal & other services	Bachelor degree or higher	Under-graduate diploma	Associate diploma
992 Agricultural & horticultural labourers	142	110	107
993 Elementary food preparation & related workers	10	16	9
999 Miscellaneous labourers & related workers	130	87	79
099 Inadequately described	149	43	45
Not stated	56	12	9
Not applicable	–	–	–
Total	**29 940**	**9 511**	**10 350**

nfd=not further defined

Source: ABS (1996) *Census of population and housing*

(3-digit ASCO) and type of post-school qualification at 1996 census (cont.)

Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (no quals)	Total
1 211	164	1 734	385	4 719	6 838
17	17	69	51	362	482
1016	103	1415	301	2 837	4 553
264	58	559	162	1 179	1 900
141	23	241	168	586	995
–	–	–	–	–	–
57 888	**11 114**	**118 803**	**24 240**	**134 877**	**277 920**

Table 138: Persons with one or more completed educational qualifications: Highe

	Higher degree	Post-grad. diploma	Bachelor degree	Bachelor & higher	Under-grad. diploma
Managers & administrators	**8.4**	**5.9**	**25.7**	**39.9**	**11.4**
Generalist managers	6.1	1.9	22.9	30.9	10.1
Specialist managers	12.0	8.7	33.1	53.7	12.8
Farmers, farm managers	0.9	2.6	7.8	11.3	9.0
Professionals	**10.0**	**11.1**	**48.1**	**69.2**	**16.2**
Science, building, engineering professionals	13.6	5.0	56.8	75.5	7.5
Business, information professionals	6.4	8.3	53.5	68.2	6.9
Health professionals	8.2	6.2	49.5	63.9	31.6
Education professionals	12.5	20.2	42.6	75.3	17.8
Social, arts & misc. professionals	10.5	9.5	42.4	62.4	12.8
Associate professionals	**2.3**	**2.3**	**17.7**	**22.2**	**10.8**
Science, engineering & related associate professionals	0.0	1.5	15.0	16.5	7.4
Business & administration associate professionals	4.6	3.7	27.8	36.2	12.4
Managing supervisors—sales & service	2.6	0.8	12.2	15.6	10.6
Health & welfare associate professionals	0.0	0.6	11.9	12.5	18.3

est qualification obtained

Associate diploma	Skilled vocational qualification	Basic vocational qualification	Total vocational	Other qualification	Total all qualifications
7.4	**20.7**	**19.3**	**58.8**	**1.3**	**100.0**
6.4	36.7	13.6	66.7	2.4	100.0
8.1	12.8	11.8	45.5	0.8	100.0
6.6	23.9	47.9	87.4	1.3	100.0
5.7	**3.3**	**4.9**	**30.1**	**0.7**	**100.0**
9.0	6.3	1.5	24.3	0.2	100.0
10.5	4.2	9.3	30.9	0.9	100.0
1.3	0.4	2.2	35.5	0.6	100.0
4.0	1.3	1.3	24.3	0.3	100.0
5.6	7.2	10.8	36.5	1.1	100.0
13.2	**25.6**	**25.3**	**75.0**	**2.7**	**100.0**
26.1	34.2	15.6	83.2	0.3	100.0
10.4	15.2	24.2	62.2	1.6	100.0
7.6	37.3	25.5	80.9	3.4	100.0
12.6	6.8	47.2	84.9	2.6	100.0

Table 138: Persons with one or more completed educational qualifications: Highe

	Higher degree	Post-grad. diploma	Bachelor degree	Bachelor & higher	Under-grad. diploma
Other associate professionals	1.5	5.7	16.2	23.4	5.7
Tradespersons & related workers	**0.0**	**0.5**	**2.4**	**2.9**	**2.4**
Mechanical, fabrication, engineering tradespersons	0.0	0.3	0.7	1.0	1.6
Automotive tradespersons	0.0	0.5	0.0	0.5	1.5
Electical, electronics tradespersons	0.0	0.8	3.0	3.8	1.9
Construction tradespersons	0.0	0.0	1.8	1.8	0.6
Food tradespersons	0.0	0.7	3.9	4.6	3.7
Skilled agricultural & horticultural tradespersons	0.0	3.5	12.4	15.9	6.8
Other tradespersons & related workers	0.0	0.3	2.7	3.0	5.3
Advanced clerical & service workers	**0.3**	**1.3**	**10.6**	**12.3**	**13.2**
Secretaries & personal assistants	0.6	1.6	6.6	8.7	9.9
Other advanced clerical & service workers	0.0	1.0	16.6	17.5	18.2
Intermediate clerical, sales & service workers	**0.8**	**2.3**	**13.6**	**16.7**	**11.9**
Intermediate clerical workers	1.1	3.1	15.0	19.2	11.4

est qualification obtained (cont.)

Associate diploma	Skilled vocational qualification	Basic vocational qualification	Total vocational	Other qualification	Total all qualifications
13.5	23.2	24.8	67.2	9.5	100.0
5.4	**71.8**	**16.5**	**96.2**	**0.9**	**100.0**
5.8	77.4	14.1	99.0	0.0	100.0
3.1	85.1	9.7	99.5	0.0	100.0
8.4	68.4	16.2	94.9	1.3	100.0
5.1	78.4	13.6	97.7	0.6	100.0
3.1	62.6	24.3	93.7	1.8	100.0
3.8	37.9	33.2	81.8	2.4	100.0
4.8	63.6	21.0	94.8	2.2	100.0
12.3	**5.4**	**52.1**	**83.1**	**4.7**	**100.0**
62.4	12.0	2.2	86.5	4.8	100.0
12.8	10.2	36.8	78.0	4.5	100.0
11.1	**14.0**	**42.0**	**78.9**	**4.4**	**100.0**
10.5	8.7	46.4	77.0	3.9	100.0

Table 138: Persons with one or more completed educational qualifications: High

	Higher degree	Post-grad. diploma	Bachelor degree	Bachelor & higher	Under-grad. diploma
Intermediate sales & related workers	0.7	0.0	8.3	9.0	8.1
Intermediate service workers	0.3	1.5	12.8	14.6	14.0
Intermediate production & transport workers	**0.1**	**0.9**	**6.6**	**7.6**	**5.0**
Intermediate plant operators	0.3	0.0	1.2	1.5	1.1
Intermediate machine operators	0.0	3.2	23.0	26.2	11.7
Road & rail transport drivers	0.0	1.5	4.5	6.0	3.5
Other intermediate production & transport workers	0.0	0.0	7.0	7.0	7.8
Elementary clerical, sales & service workers	**0.8**	**2.3**	**14.5**	**17.6**	**10.5**
Elementary clerks	0.0	4.6	12.1	16.6	9.1
Elementary sales workers	1.1	2.0	16.1	19.2	10.7
Elementary service workers	0.0	1.9	7.1	9.0	10.2
Labourers & related workers	**0.5**	**0.7**	**5.0**	**6.2**	**8.5**
Cleaners	0.9	1.4	8.2	10.5	6.8
Factory labourers	0.0	0.7	7.4	8.2	8.5
Other labourers & related workers	0.5	0.3	2.1	3.0	9.3
All occupations	3.9	4.6	21.7	30.2	10.8

Source: Unpublished data from the 1997 ABS education and training experience survey

st qualification obtained (cont.)

Associate diploma	Skilled vocational qualification	Basic vocational qualification	Total vocational	Other qualification	Total all qualifications
9.5	41.0	31.9	90.5	0.5	100.0
12.1	15.7	37.0	78.9	6.5	100.0
5.2	**44.1**	**34.0**	**88.4**	**4.0**	**100.0**
5.4	51.4	37.9	95.7	2.8	100.0
4.2	28.5	27.5	71.8	1.9	100.0
4.2	51.4	30.9	90.0	4.0	100.0
6.7	35.4	36.9	86.8	6.1	100.0
9.3	**15.0**	**43.2**	**77.9**	**4.5**	**100.0**
17.9	10.4	39.4	76.9	6.5	100.0
7.4	14.6	43.9	76.7	4.1	100.0
11.7	22.2	42.5	86.5	4.5	100.0
4.4	**31.8**	**43.0**	**87.7**	**6.1**	**100.0**
5.0	25.8	43.4	81.1	8.4	100.0
3.2	29.1	46.8	87.6	4.3	100.0
4.8	36.1	40.7	90.9	6.1	100.0
7.9	23.8	24.6	67.1	2.7	100.0

Table 139: The labour force status of the Australian working age population by th

Labour force status				Highes
	University higher degree & postgraduate diploma	University bachelor degree	Diploma/ associate diploma	Skille vocatio qualifica
Employed				
Full-time	378.7	1 005.6	601.8	1 087
Part-time	80.3	236.8	212.6	131
Total	**459.0**	**1 242.4**	**814.3**	**1 218**
Unemployed	13.8	38.8	42.6	52
Labour force	472.9	1 281.1	856.9	1 271
Not in labour force	55.1	175.5	183.9	195
Total population aged 15–24	**527.9**	**1 456.6**	**1 040.8**	**1 467**

e highest level of qualification held, 2000

st level of qualification held ('000)					
ed onal ation	Basic vocational qualification	Total with a post-school qualification	No post-school qualifications	Still at school	Total 15–64 population
.3	531.9	3 605.3	2 866.2	1.9	6 473.4
.5	239.5	900.5	1 223.6	226.9	2 351.0
.8	**771.3**	**4 505.8**	**4 089.8**	**228.8**	**8 824.5**
.2	59.8	207.4	383.0	51.2	641.6
.1	831.2	4 713.2	4 472.9	280.0	9 466.0
.9	215.7	826.0	1 957.0	403.7	3 186.7
.0	**1 046.9**	**5 539.2**	**6 429.9**	**683.7**	**12 652.7**

Table 140: The proportion in each category of the labour force by the highest leve

Labour force status				Higl
	University higher degree & postgraduate diploma	University bachelor degree	Diploma/ associate diploma	Sl voc quali
Employed				
Full-time	71.7	69.0	57.8	
Part-time	15.2	16.3	20.4	
Total	**86.9**	**85.3**	**78.2**	
Unemployed	2.6	2.7	4.1	
Labour force	89.6	88.0	82.3	
Not in labour force	10.4	12.0	17.7	
Total population aged 15–24 years	**100.0**	**100.0**	**100.0**	**1**

Source: ABS (2000b)

l of qualification held, 2000

hest level of qualification held ('000)					
killed cational lification	Basic vocational qualification	Total with a post-school qualification	No post-school qualifications	Still at school	Total 15–64 population
74.1	50.8	65.1	44.6	0.3	51.2
9.0	22.9	16.2	19.0	33.2	18.6
83.1	**73.7**	**81.3**	**63.6**	**33.5**	**69.8**
3.6	5.7	3.8	6.0	7.5	5.0
86.7	79.4	85.1	69.6	41.0	74.8
13.3	20.6	14.9	30.4	59.0	25.2
100.0	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Table 141: Derived full-time unemployment rate by occupation, February 1997 and 2000

Occupation	Males		Females		Persons	
	1997	2000	1997	2000	1997	2000
Tradespersons & related workers						
Mechanical, fabrication, engineering tradespersons	3.94	3.54	25.84	0.00	4.16	3.51
Automotive tradespersons	5.29	4.40	32.22	42.64	5.48	4.58
Electrical, electronics tradespersons	2.22	2.66	0.00	0.00	2.16	2.63
Construction tradespersons	8.25	3.60	0.00	0.00	8.16	3.55
Food tradespersons	8.08	5.64	7.97	7.62	8.06	6.09
Skilled agricultural & horticultural tradespersons	11.68	2.96	16.33	10.31	12.06	3.57
Other tradespersons & related workers	5.19	4.48	9.93	3.11	6.32	4.12
Intermediate clerical, sales & service workers						
Intermediate clerical workers	5.01	3.19	5.05	2.99	5.04	3.05
Intermediate sales & related workers	2.18	2.68	2.00	2.09	2.14	2.54
Intermediate service workers	11.79	4.98	10.12	6.91	10.62	6.30
Elementary clerical, sales & related workers						
Elementary clerks	5.39	3.76	6.59	4.50	6.03	4.16
Elementary sales workers	10.27	7.48	10.18	8.52	10.22	8.08
Elementary service workers	7.82	8.90	5.38	7.20	7.25	8.47
Labourers & related workers						
Cleaners	14.62	7.29	9.60	12.45	12.56	9.04
Factory labourers	13.44	7.33	10.05	6.11	12.40	6.95
Other labourers & related workers	17.68	12.09	16.88	12.30	17.55	12.13

Source: Experimental, based on unpublished data from the ABS labour force survey

Table 142: Distribution of hours worked per week by occupation, 2000

Occupation	Distribution of hours worked per week 2000						Average number of hours worked per week	
	0	0–15	16–34	35–39	40–49	50 & over	2000	1997
Tradespersons & related workers								
Mechanical, fabrication, engineering tradespersons	6.3	0.3	11.7	18.9	40.6	22.2	40.7	41.5
Automotive tradespersons	3.3	1.8	5.2	16.6	46.2	26.9	43.3	41.4
Electrical, electronics tradespersons	6.0	2.6	9.8	18.0	45.1	18.5	39.5	41.9
Construction tradespersons	5.4	2.6	12.4	12.5	44.1	22.9	40.2	39.1
Food tradespersons	4.1	4.5	16.4	22.8	30.9	21.2	39.1	38.8
Skilled agricultural & horticultural tradespersons	3.9	9.4	17.7	15.3	38.0	15.8	36.3	35.8
Other tradespersons & related workers	4.9	6.5	11.9	22.7	35.5	18.5	38.1	38.9
Intermediate clerical sales & service workers								
Intermediate clerical workers	5.5	10.5	24.7	25.3	28.8	5.1	31.4	31.6
Intermediate sales & related workers	3.5	2.6	9.2	13.7	41.0	30.0	42.2	40.5
Intermediate service workers	4.7	23.3	34.1	14.9	16.7	6.2	26.8	27.0
Elementary clerical, sales & service workers								
Elementary clerks	5.3	12.4	23.8	22.9	28.2	7.4	31.2	29.2
Elementary sales workers	4.3	34.2	30.3	11.5	14.2	5.7	24.0	25.4
Elementary service workers	3.8	27.3	26.1	12.5	20.3	10.0	27.5	29.8
Labourers & related workers								
Cleaners	4.1	38.4	27.4	12.4	13.6	4.1	22.4	24.4
Factory labourers	4.7	6.4	19.0	27.4	35.3	7.2	34.9	35.5
Other labourers & related workers	4.8	18.5	25.8	13.7	21.6	15.7	31.7	30.1
All occupations	**5.0**	**11.4**	**18.8**	**16.0**	**29.2**	**19.6**	**35.8**	**36.1**

Source: Unpublished data from the ABS labour force survey

Table 143: The number and proportion of employed persons by mode of emplo

	Self-employment		V
	No. ('000)	*Proportion (%)*	*N*
Higher degree & postgraduate diploma	40.1	8.7	
Bachelor degree	112.1	9.0	1
Undergraduate diploma	58.8	11.7	
Associate diploma	28.5	9.2	
Skilled vocational qualification	254.9	20.9	
Basic vocational qualification	89.2	11.6	
Total with post-school qualifications	583.7	12.9	3
No post-school qualifications	527.5	12.9	3
Still at school	13.2	5.7	
Total employed	**1124.4**	**12.8**	**7**

Source: ABS (2000b)

yment and educational attainment, 2000

Mode of employment			
Wage & salary employment		Total employment	
lo. ('000)	Proportion (%)	No. ('000)	Proportion (%)
418.8	91.3	459.0	100.0
1130.3	91.0	1242.4	100.0
445.5	88.2	504.3	100.0
281.4	90.8	310.0	100.0
963.9	79.1	1218.8	100.0
682.1	88.4	771.3	100.0
3922.1	87.1	4505.8	100.0
3562.3	87.1	4089.8	100.0
215.7	94.3	228.8	100.0
7700.1	**87.2**	**8824.5**	**100.0**

Table 144: Occupations of trades qualified persons/persons who have a skilled v

Occupational categories 1989 & 1993	No. employed ('000)		
	1989	1993	2000
Managers & administrators, professionals & para-professionals	258.9	293.7	264.6
Tradespersons	625.7	649.7	611.4
Clerks, salespersons & personal service workers	108.1	120.5	153.9
Plant & machine operators & drivers	84.7	88.3	108.7
Labourers & related workers	113.1	112.2	80.4
Total	**1190.5**	**1264.5**	**1218.8**

Source: ABS (1989, 1993, 2000b)

vocational qualification, 1989, 1993 and 2000

Proportion of employed (%)			Occupational category 2000
1989	1993	2000	
21.7	23.2	21.8	**Managers & administrators, professionals & associate professionals**
52.6	51.4	50.2	**Tradespersons & related workers**
9.1	9.5	12.6	**Advanced, intermediate & elementary clerical, sales & service workers**
7.1	7.0	8.9	**Intermediate production & transport workers**
9.5	8.9	6.5	**Labourers & related occupations**
100.0	**100.0**	**100.0**	**Total**

Table 145: Percentage of qualified tradespersons who were currently working in the trade by year qualified in the trade and field of trade in Australia, 1989 and 1993

Year qualified in trade	Metal fitting & machining	Other metal	Electrical & electronics	Building	Vehicle	Food	Hair-dressing	Other	Total
1993 Education & training experience survey									
Before 1960	18.7	41.5	30.3	34.8	28.3	11.1	14.8	15.8	25.5
1960–1969	37.9	37.8	51.9	57.3	47.4	25.4	28.6	41.6	44.5
1970–1979	48.9	60.3	54.8	65.5	46.5	62.3	32.5	47.2	53.5
1980–1989	53.1	41.0	61.4	71.0	54.2	52.9	40.8	49.9	56.6
1990–1993	84.8	69.7	75.2	78.5	74.8	76.7	77.8	78.0	77.6
Total	**47.4**	**48.4**	**56.3**	**63.2**	**51.6**	**49.1**	**37.9**	**44.5**	**52.1**
1989 Education & training experience survey									
Before 1960	35.7	44.4	47.2	51.5	30.3	38.2	18.4	29.5	40.2
1960–1969	36.7	44.4	57.2	64.4	48.6	27.8	23.4	44.8	47.2
1970–1979	63.3	51.9	72.8	69.1	57.1	46.4	34.4	54.1	61.0
1980–1989	65.7	59.9	79.6	79.8	62.8	67.4	55.4	65.6	69.2
Total	**52.1**	**51.4**	**66.5**	**67.8**	**53.8**	**48.2**	**36.8**	**52.0**	**56.9**

Source: Derived from ABS (1989, 1993)

Table 146: Usual weekly earnings of wage and salary earners by type of qualif

Most recent qualification	Under $200	$200 & under $400	$400 & under $60
			N
Higher degree & postgraduate diploma	11.1	20.0	44.7
Bachelor degree	34.4	63.7	152.1
Undergraduate diploma	25.9	63.8	101.2
Associate diploma	17.0	38.4	81.0
Skilled vocational qualifications	26.3	58.7	218.1
Basic vocational qualifications	84.2	181.7	301.0
Level not stated/inadequately described*	14.7	20.9	40.1
Total with post-school qualifications	213.6	447.2	938.2
Without post-school qualifications	633.2	673.3	929.5
Total	**846.8**	**1120.5**	**1867.7**
			Prop
Higher degree & postgraduate diploma	3.0	5.4	12.1
Bachelor degree	4.7	8.6	20.6
Undergraduate diploma	6.9	16.9	26.8
Associate diploma	5.9	13.3	28.0
Skilled vocational qualifications	3.7	8.3	31.0
Basic vocational qualifications	9.4	20.1	33.1
Level not stated/inadequately described*	9.3	13.1	25.2
Total with post-school qualifications	6.0	12.6	26.5
Without post-school qualifications	20.2	21.4	29.6
Total	**12.7**	**16.8**	**27.9**

* Includes other qualifications

Source: ABS (1997)

cation, 1997

	Usual weekly earnings				
0	$600 & under $800	$800 & under $1000	$1000 & over	Level not stated	Total
lo. of wage & salary earners (%)					
	60.4	93.9	126.9	12.3	369.3
	169.5	135.5	146.8	37.4	739.4
	77.3	52.7	40.6	15.8	377.3
	68.6	31.7	38.4	14.6	289.7
	190.1	88.9	76.7	44.8	703.6
	154.6	71.3	69.7	41.3	903.8
	28.7	21.6	20.8	12.1	158.9
	749.2	495.6	519.9	178.3	3542.0
	418.1	171.0	133.4	180.8	3139.3
	1167.2	**666.6**	**653.3**	**359.2**	**6681.3**
ortion of wage & salary earners (%)					
	16.4	25.4	34.4	3.3	100.0
	22.9	18.3	19.9	5.0	100.0
	20.5	14.0	10.8	4.2	100.0
	23.7	10.9	13.2	5.0	100.0
	27.0	12.6	11.0	6.4	100.0
	17.1	7.9	7.7	4.6	100.0
	18.1	13.6	13.1	7.6	100.0
	21.2	14.0	14.7	5.0	100.0
	13.3	5.4	4.3	5.8	100.0
	17.4	**10.0**	**9.8**	**5.4**	**100.0**

Table 147: Usual weekly earnings of male and female wage and salary earners b

Most recent qualification	Under $200	$200 & under $400	$400 & under $60
Higher degree & postgraduate diploma	0.7	5.2	15.7
Bachelor degree	8.3	11.0	55.0
Undergraduate diploma	1.9	8.1	28.8
Associate diploma	2.6	10.8	28.8
Skilled vocational qualifications	9.4	27.9	197.8
Basic vocational qualifications	19.0	34.5	118.5
Level not stated/inadequately described*	3.5	6.1	17.5
Total with post-school qualifications	49.4	103.6	462.1
Without post-school qualifications	216.8	256.0	506.8
Total	**262.2**	**359.6**	**968.9**
Higher degree & postgraduate diploma	9.5	14.8	28.8
Bachelor degree	26.1	52.7	97.1
Undergraduate diploma	24.0	55.7	72.4
Associate diploma	14.4	27.6	52.3
Skilled vocational qualifications	16.9	30.8	20.3
Basic vocational qualifications	65.2	147.2	182.5
Level not stated/inadequately described*	12.1	14.9	22.6
Total with post-school qualifications	168.2	343.7	476.0
Without post-school qualifications	416.4	417.2	422.7
Total	**584.6**	**760.9**	**898.8**

* Includes other qualifications.

Source: ABS (1997)

y type of qualification, 1997

Usual weekly earnings				
$600 & under $800	$800 & under $1000	$1000 & over	Level not stated	Total
No. of males ('000)				
23.1	49.5	95.2	5.7	195.1
61.8	72.3	111.1	17.2	336.7
29.7	22.4	33.2	5.7	129.8
42.1	27.0	32.6	5.9	149.8
180.5	87.8	75.1	41.4	619.8
88.4	53.2	66.1	22.1	401.8
17.2	14.9	19.4	3.6	82.2
442.8	327.1	432.7	101.5	1915.2
298.2	143.8	116.7	98.7	1637.0
741.0	**470.9**	**549.4**	**200.2**	**3552.2**
No. of females ('000)				
37.4	44.4	31.5	7.8	174.2
107.7	63.2	35.6	20.3	402.7
47.6	30.2	7.4	10.2	247.5
26.4	4.7	5.8	8.8	140.0
9.6	1.1	1.5	3.6	83.8
66.2	18.1	3.6	19.3	502.1
11.5	6.8	1.8	6.9	76.6
306.4	168.5	87.2	76.9	1626.9
119.9	27.2	16.7	82.2	1502.3
426.3	**195.7**	**103.9**	**158.9**	**3129.1**

Table 148: All persons, mean part-time weekly earnings by qualification, age, sex, Australia, 1997–1998

	Age					
	15–24	25–34	35–44	45–54	55 & over	Total
Mean total earned income						
Males						
Higher degree	–	–	682	-38	214	384
Postgraduate diploma	220	343	865	200	473	409
Bachelor degree	167	395	863	574	535	432
Undergraduate diploma	–	–	586	–	19	359
Associate diploma	194	614	390	224	227	304
Skilled vocational qualifications	221	272	279	338	253	272
Basic vocational qualifications	349	101	84	270	–	260
No qualifications	156	222	242	301	188	193
Total	**172**	**277**	**356**	**323**	**232**	**245**
Females						
Higher degree	–	485	440	703	119	451
Postgraduate diploma	148	289	544	634	547	468
Bachelor degree	261	342	388	362	262	348
Undergraduate diploma	350	320	337	534	586	392
Associate diploma	198	309	175	176	136	219
Skilled vocational qualifications	206	239	248	381	135	269
Basic vocational qualifications	201	237	280	314	340	259
No qualifications	149	231	241	253	218	221
Total	**168**	**257**	**284**	**307**	**241**	**260**
Total						
Higher degree	–	485	524	610	199	421
Postgraduate diploma	157	294	549	597	520	463
Bachelor degree	215	362	444	382	350	369
Undergraduate diploma	350	313	361	534	443	390
Associate diploma	195	375	223	188	204	251
Skilled vocational qualifications	212	252	258	370	216	270
Basic vocational qualifications	233	230	268	310	340	259
No qualifications	152	229	241	258	206	213
Total	**170**	**262**	**294**	**309**	**236**	**256**

Source: Unpublished data from the ABS survey of income and housing costs, 1997–1998

Table 149: All persons, mean full-time weekly earnings by qualification, age, sex, Australia, 1997–1998

	Age					
	15–24	25–34	35–44	45–54	55 & over	Total
Mean total earned income						
Males						
Higher degree	–	1302.4	1449.5	2218.6	1208.0	1623.6
Postgraduate diploma	380.0	1220.1	2674.3	1453.3	1426.0	1804.7
Bachelor degree	633.2	1148.5	1325.2	1505.0	1360.4	1256.8
Undergraduate diploma	441.2	889.1	1074.0	1456.6	855.4	1116.5
Associate diploma	623.3	942.2	1094.6	1257.8	1123.4	1058.6
Skilled vocational qualifications	562.8	809.7	901.4	1007.9	878.0	863.0
Basic vocational qualifications	506.1	782.4	967.3	1032.7	345.0	811.1
No qualifications	510.1	779.4	883.4	912.8	683.8	777.2
Total	**535.3**	**876.8**	**1048.6**	**1119.0**	**859.5**	**935.9**
Females						
Higher degree	–	691.0	905.6	1043.9	240.3	842.7
Postgraduate diploma	641.0	733.0	796.3	888.6	1871.9	840.4
Bachelor degree	607.0	710.7	747.5	910.2	851.8	705.3
Undergraduate diploma	315.2	689.8	614.3	814.1	692.1	650.3
Associate diploma	506.6	523.4	593.2	676.4	–	522.4
Skilled vocational qualifications	451.4	579.3	602.2	568.0	384.8	531.9
Basic vocational qualifications	408.6	577.1	574.3	547.6	656.4	506.8
No qualifications	378.3	562.2	548.3	558.8	426.6	479.9
Total	**444.8**	**610.9**	**651.0**	**661.2**	**568.4**	**563.4**
Total persons						
Higher degree	–	1157.1	1311.7	2055.9	1115.5	1466.7
Postgraduate diploma	563.6	1044.3	2395.0	1404.6	1518.0	1579.8
Bachelor degree	617.8	1037.1	1221.8	1436.4	1312.5	1123.4
Undergraduate diploma	345.6	821.6	966.4	1317.8	826.0	989.1
Associate diploma	555.6	832.5	1066.7	1244.6	1123.4	951.1
Skilled vocational qualifications	536.5	786.5	888.8	978.6	858.0	834.5
Basic vocational qualifications	450.2	696.4	885.1	993.8	442.1	702.8
No qualifications	467.9	737.3	848.4	868.3	652.6	724.4
Total	**501.0**	**823.1**	**1004.8**	**1071.2**	**831.0**	**870.3**

Source: Unpublished data from the ABS survey of income and housing costs, 1997–1998

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Table 150: All persons, mean total weekly earnings by qualification, age, sex, Australia, 1997–1998

	Age					
	15–24	25–34	35–44	45–54	55 & over	Total
Mean total earned income						
Males						
Higher degree	–	796	986	1689	414	1003
Postgraduate diploma	269	862	2061	961	603	1238
Bachelor degree	414	830	945	1022	559	825
Undergraduate diploma	167	749	700	932	258	636
Associate diploma	402	637	695	820	309	598
Skilled vocational qualifications	415	551	576	620	201	457
Basic vocational qualifications	332	561	586	694	89	467
No qualifications	249	455	557	453	117	336
Total	**291**	**566**	**684**	**654**	**185**	**468**
Females						
Higher degree	–	523	647	880	389	614
Postgraduate diploma	351	539	599	728	544	578
Bachelor degree	513	491	471	521	162	451
Undergraduate diploma	231	419	386	584	115	363
Associate diploma	386	419	234	363	59	315
Skilled vocational qualifications	301	301	278	354	78	262
Basic vocational qualifications	237	316	235	270	72	235
No qualifications	179	240	235	235	33	157
Total	**242**	**324**	**298**	**314**	**52**	**229**
Total						
Higher degree	–	659	842	1456	407	852
Postgraduate diploma	332	664	1261	857	576	876
Bachelor degree	475	649	717	800	363	635
Undergraduate diploma	208	525	492	742	173	466
Associate diploma	392	530	512	671	232	478
Skilled vocational qualifications	377	476	494	537	174	403
Basic vocational qualifications	265	373	303	400	76	293
No qualifications	216	339	376	328	65	236
Total	**267**	**444**	**489**	**485**	**115**	**347**

Source: Unpublished data from the ABS survey of income and housing costs, 1997–1998

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Appendix 3: The impact of labour market and demographic changes on apprenticeships, traineeships and new apprenticeships

Changes to the industrial profile of employment

Structural changes to the economy impact directly on the labour market and the demand for skills. The manufacturing sector has steadily declined in importance since the 1960s as consumer demand moves away from manufactured goods towards services. Although the value of manufacturing production grew over the 1990s, the shares of gross domestic product and manufacturing-related employment continued to fall. The service sector contributed 76% of output in 1998–99 while the manufacturing sector accounted for only 15%. The mining and agriculture, forestry and fishery sectors contributed 5% and 4% to the value of output.

Within the service sector, the property and business services industry sector provides the largest contribution to Australia's gross domestic product, followed by finance and insurance, construction and health and community services. The size of these industry sectors and their growth rates highlights the growing dominance of the service sector of the economy. The annual growth rates for the major industry sectors from 1999 to 2000 and over the decade to May 2000, are shown in table 151.

The dominance of the service sector's contribution to Australia's output is also reflected in its employment levels. The services sector accounted for 81% of the labour force in 1998–99.

The changes to Australia's industrial profile have been reflected by increases in the number of people in service sector-related occupations in training in the late 1990s. Commencements in the intermediate and elementary clerical and service areas increased by 43% and 79%, respectively, between 1995 and 1999. In particular, numbers in hospitality and retail trade have experienced strong growth over the period 1995 to 1999, with a 34% and 71% increase in commencements over the period, respectively.

Changes in occupational mix and skill intensity

The occupational classification used by the Australian Bureau of Statistics provides a measure of the skill intensity of the Australian workforce. Occupational skills can be classified into three categories:

- high-skill occupations which comprise managers, professionals and associate professionals
- medium-skill occupations which comprise tradespersons, advanced clerical workers and intermediate clerical and service workers
- low-skill occupations which comprise intermediate production and transport workers, elementary clerical and service workers and labourers

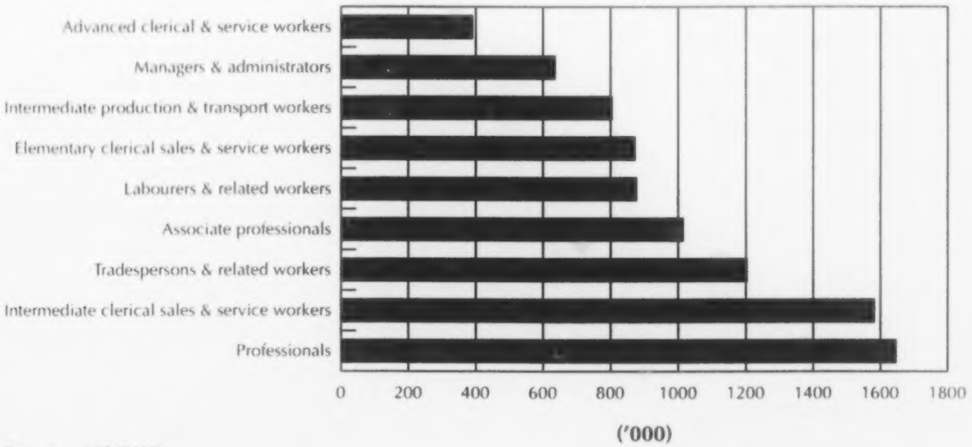
The largest occupational groups in Australia are professionals, intermediate clerical, sales and service workers, and tradespersons and related workers. Employment by occupational group in May 2000 is shown in figure 33.

Table 151: Average annual rate of employment growth by industry, 1990–2000

	Average annual growth rate for the ten year period May 1990 to May 2000 (%)	Average annual growth rate for the one year period May 1999 to May 2000 (%)
Agriculture, forestry & fishing	-0.2	1.3
Mining	-2.6	0.0
Manufacturing	-0.1	9.1
Electricity, gas & water supply	-4.5	1.0
Construction	2.1	8.5
Wholesale trade	-1.7	-17.5
Retail trade	1.5	-0.2
Accommodation, cafes & restaurants	3.3	7.0
Transport & storage	1.1	0.5
Communication services	1.8	13.7
Finance & insurance	-1.2	10.2
Property & business services	5.5	6.8
Government administration & defence	-0.7	-4.0
Education	1.2	-1.4
Health & community services	2.7	5.4
Cultural & recreational services	3.7	0.5
Personal & other services	2.2	5.4
All industries	1.3	3.3

Source: ABS (2000)

Figure 33: Occupational employment share, by occupational groupings Australia, May 2000



Source: ABS (2000)

Changes in the distribution of occupational employment provides an indication of changes in the skill level of the Australian workforce. Cully (1999) reports that between 1993 and 1999, Australia experienced relative growth in both skilled and unskilled positions. As this growth came largely at the expense of medium-skilled jobs, Cully suggests that the Australian labour market is becoming increasingly polarised between jobs that are highly skilled and highly paid and jobs that are unskilled with low pay. This trend continues the pattern of the earlier two decades identified by Gregory (1993). However, the Department of Industry, Science and Resources (2000) estimated that the proportion of low-skilled employees in the workforce remained relatively unchanged at about 29% of the workforce throughout the period 1986 to 1999. During this time, the share of high-skilled workers increased from 33% to 36% while the proportion of medium-skilled workers fell from 38% to 35%.

These changes in skill intensity are not consistent across all occupations in a particular skill category. Changes in the distribution of tradespersons by occupational category between February 1997 and February 2000 are shown in table 152. There is a wide dispersion in the annual percentage change in the number of people in different tradesperson occupations. Although there was a 4% annual decline in the number of construction tradespersons and 'other tradespersons and related workers' over the three years to February 2000, there was a 4% and 6% annual increase in the number of automotive tradespersons and food tradespersons, respectively.

Table 152: Distribution of persons by occupational category, February, 2000

Tradesperson occupation	Persons ('000)	Distribution of persons by occupational category (%)		Annual percentage change in occupation 1997–2000 (%)
		1997	2000	
Mechanical, fabrication, engineering tradespersons	201.2	2.6	2.3	-0.3
Automotive tradespersons,	133.1	1.6	1.5	3.6
Electrical, electronics tradespersons	202.2	2.2	2.3	1.7
Construction tradespersons	84.4	1.1	0.9	6.1
Food tradespersons	84.4	1.1	0.9	6.1
Skilled agricultural and horticultural tradespersons	83.8	0.8	0.9	1.9
Other tradespersons and related workers	219.9	2.5	2.5	-4.2

Source: Derived from unpublished data from the ABS labour force survey

Other indicators of changes in skill levels and labour force change occurring across the economy are provided by occupational unemployment rates, the proportion of an occupational category working full time, and the distribution of hours worked per week by occupational category.

The occupational changes occurring in the economy are not reflected in the distribution of commencements of apprentices and trainees. Apprentices and trainees in the middle-level occupational categories comprising tradespersons and related workers, intermediate clerical, sales and service workers and intermediate production and transport workers accounted for 60% of commencements during 1999. Annual rates of growth in commencement numbers between 1995 and 1999 of 5%, 43%, and 77% were recorded for the tradespersons and related workers, intermediate clerical, sales and service workers and intermediate production and transport workers occupational categories, respectively.

Changes in the manner of employment

Technological change and other changes stemming from globalisation of economies around the world are now having a profound impact on the nature of work, the way it is organised and skills it requires. These changes include the growth of non-standard employment including a shift to part-time, casual, outsourced or home-based work; downsizing; occupational change and the development of new occupations. In response to these changes new forms of work arrangements have evolved and devolved forms of work structures are in place. Changes to the nature of work are now so rapid that people cannot expect to be working in the same area, or in the same manner, over their working life.

Although much of the growth in employment between May 1999 and May 2000, was in full-time employment, part-time employment (3.9%) continued to grow at a faster rate than full-time

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employment (3.3%). About 73% of the labour force was employed full time during May 2000, compared with 75% five years earlier. However, growth in part-time employment is not consistent across all industry sectors. Growth in full-time and part-time employment, and the proportion of the workforce employed full time differs by industry and occupation. Details of the shifts in full-time employment and employment growth by industry, and the proportion of the workforce employed full time by industry and occupation are provided in tables 153 and 154.

Table 153: Shifts in full-time employment and employment growth by full-time/part-time categories and by industry, 1995, 1999 and 2000

	Proportion of the workforce employed full time (%)			Average annual growth in employment over the five-year period May 1995 to May 2000 (%)		Average annual growth in employment over the one-year period May 1999 to May 2000 (%)	
	May 1995	May 1999	May 2000	Full-time	Part-time	Full-time	Part-time
Agriculture, forestry & fishing	75.8	75.5	75.8	2.1	2.1	1.8	-0.2
Mining	97.4	98.8	96.2	-3.4	-3.2	-2.5	233.3
Manufacturing	90.4	90.2	88.7	0.8	1.2	8.2	26.9
Electricity, gas & water supply	96.9	96.6	93.3	-4.9	-4.2	-2.2	95.7
Construction	84.9	87.3	86.2	3.5	3.2	8.2	16.4
Wholesale trade	85.4	84.6	84.3	-3.6	-3.3	-15.2	-13.5
Retail trade	58.4	55.0	54.4	0.5	1.9	-1.4	1.3
Accommodation, cafes & restaurants	54.4	50.2	53.2	2.2	2.7	14.0	0.9
Transport & storage	87.6	84.4	85.0	1.0	1.7	1.1	-3.1
Communication services	87.7	86.1	88.3	3.5	3.3	18.9	-2.3
Finance & insurance	81.2	81.5	82.2	1.2	1.0	12.3	6.8
Property & business services	75.6	75.7	76.9	5.6	5.3	8.9	2.0
Government administration & defence	88.6	86.1	87.5	-1.5	-1.3	-2.2	-14.1
Education	68.9	66.8	65.7	0.3	1.2	-2.9	1.7
Health & community services	62.0	59.7	58.7	1.7	2.8	3.9	8.3
Cultural & recreational services	60.7	63.8	57.6	1.4	2.4	-9.2	17.8
Personal & other services	72.0	69.9	70.8	2.9	3.3	7.1	2.6
All industries	75.2	73.4	73.3	1.3	1.8	3.3	3.9

Source: ABS (2000) and earlier editions

Part-time employment in the main occupational categories that train apprentices and trainees is more common in the lower-skilled occupation categories such as elementary clerical, sales and service workers and labourers and related workers. There were 23 940 and 19 000 commencements respectively in these occupational categories in 1999.

Consistent with changes that have taken place in the labour market, there has been an increase in the proportion of apprentices and trainees who are part time. While only about 9% of apprentices and trainees undertaking a contract of training at the end of 1995 were part time, almost 18% of apprentices and trainees undertaking a contract of training at the end of 1999 were part time. The increase in the proportion of part-time apprentices and trainees reflects both the opening up of the apprentice and trainee system under new apprenticeships and the increase in the proportion of apprentices and trainees who are in service sector occupations. A relatively high proportion of people in service occupations are employed part time.

Table 154: Proportion of workforce employed full time, by occupation, 1997 and 2000

Occupation	Proportion employed full time	
	1997	2000
Tradespersons & related workers		
Mechanical, fabrication, engineering tradespersons	85.1	81.7
Automotive tradespersons	85.2	89.8
Electrical, electronics tradespersons	84.9	81.6
Construction tradespersons	77.9	79.5
Food tradespersons	71.5	74.9
Skilled agricultural & horticultural tradespersons	63.5	69.0
Other tradespersons & related workers	77.6	76.7
Intermediate clerical, sales & service workers		
Intermediate clerical workers	60.5	59.3
Intermediate sales & related workers	82.0	84.7
Intermediate service workers	37.9	37.9
Elementary clerical, sales & service workers		
Elementary clerks	51.5	58.5
Elementary sales workers	35.1	31.3
Elementary service workers	50.7	42.8
Labourers & related workers		
Cleaners	33.1	30.1
Factory labourers	73.2	69.9
Other labourers & related workers	49.4	50.9

Source: Unpublished data from the ABS labour force survey

Changes in the age structure of the workforce

In line with most OECD countries, in Australia the workforce is aging, with young people accounting for a declining proportion of the workforce. These demographic changes are due to longer life expectations and declining birth rates. In 1990, 39% of the working age population were over 45 years of age. By 1999 the percentage in this group aged over 45 had increased to 43%. Population projections[1] indicate that by 2010 the percentage will have risen to 49 and by 2020 more than half (53%) of Australia's working age population will be aged 45 years and over. The proportion of the working age population aged 15–24 years is shown in table 155. While young people aged 15–24 comprised 23% of the working age population in 1994, by 2009, this group is forecast to comprise only 20% of the working age population.

The aging of the workforce has implications for apprentice training as employers increasingly will need to look towards older people to meet their entry-level labour force requirements and reskill older workers through new apprenticeships.

The age profile of the Australian workforce at May 2000, is shown in table 156. Currently, a high percentage of workers in agriculture, utilities, education, transport, government and health and community services are over 45 years of age. Other industry sectors such as mining, communication services and personal and other services have a high proportion of their workforce aged between 35 and 44 years of age.

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[1] Derived from the demographic module of the Econtech, MM2 model.

Table 155: Proportion of working age population, 1994–2009

Age group	Australia			
	1994	1999	2004 forecasts	2009 forecasts
15–19	10.7	10.5	10.1	9.9
20–24	12.1	10.7	10.2	10.0
15–24	**22.9**	**21.2**	**20.3**	**19.9**

Table 156: Age profile of the Australian workforce aged 15 to 64 years by industry sector, May 2000

Industry sector	Age in years (%)						
	15–19	20–24	25–34	35–44	45–54	Over 55	Total
Agriculture, forestry & fishing	6.1	6.1	16.3	24.6	21.9	24.9	100.0
Mining	1.1	7.9	30.7	29.9	21.6	8.7	100.0
Manufacturing	4.2	10.8	25.7	26.6	22.4	10.3	100.0
Electricity, gas & water supply	3.1	4.4	22.2	31.9	30.5	7.9	100.0
Construction	5.0	13.1	24.7	27.2	19.8	10.2	100.0
Wholesale trade	3.5	9.9	25.8	26.1	21.8	12.8	100.0
Retail trade	24.4	15.0	21.5	17.6	14.3	7.1	100.0
Accommodation, cafes & restaurants	15.3	20.7	21.8	18.6	16.8	6.9	100.0
Transport & storage	2.6	7.6	25.3	28.4	23.3	12.8	100.0
Communication services	2.4	11.0	26.9	27.0	23.0	9.8	100.0
Finance & insurance	2.6	11.8	34.3	25.1	20.6	5.7	100.0
Property & business services	3.5	12.2	28.8	24.8	20.6	10.2	100.0
Government administration & defence	1.5	7.0	25.2	30.1	26.6	9.6	100.0
Education	1.7	6.3	19.8	29.2	31.6	11.3	100.0
Health & community services	2.1	7.8	21.5	29.4	27.2	12.1	100.0
Cultural & recreational services	9.0	15.2	28.4	21.2	16.7	9.4	100.0
Personal & other services	6.7	12.6	24.6	25.3	22.9	7.9	100.0
All industries	**7.3**	**11.2**	**24.3**	**25.1**	**21.6**	**10.5**	**100.0**

Source: ABS (2000)

Changes in the age profile of apprentices and trainees have been evident since 1993–94 when adults were able to access traineeships for the first time. About a third of apprentices and trainees in Australia at 30 June 2000, were over 25 years of age. About 42% of female apprentices and trainees and 28% of male apprentices and trainees were over 25 years of age. About 9% of male and 18% of female apprentices and trainees were over 40 years of age. The age distribution of apprentices and trainees at 30 June 2000, is shown in table 157.

About 1.6% of all men and 0.9% of all women in the 25 to 39-year-age group were in training. About 0.6% of all men and women in the 40 to 64-year-age group were in training (see table 157).

Table 157: Age profile of apprentices and trainees in Australia, June 2000

Age group	Number in training[a] contracts ('000)				Proportion of age cohort (%)		
	Males	Females	Persons	Per cent	Males	Females	Persons
Age 15–19	73.0	28.2	101.2	36.7	10.6	4.3	7.5
Age 20–24	64.7	21.6	86.4	31.3	9.3	3.2	6.3
Age 25–39	35.0	20.1	55.1	20.0	1.6	0.9	1.3
Age 40–64	17.5	15.5	33.0	12.0	0.6	0.5	0.6
Age 15–64	**190.3**	**85.4**	**275.6**	**100.0**	**2.9**	**1.3**	**2.1**

(a) Number in training as at 30 June 2000

Source: NCVER (2000)

In recent years, older apprentices have used recognition of prior learning (RPL) and work experience to gain a reduction in the term of their indenture or training contract. Although there are differences across States, time credits are now commonplace. Since 1997 roughly 15% of new apprentices in New South Wales have received time credits (Webster et al. 2001).

Based on an analysis of TAFE enrolments in the metal trade, building trade, electrical trade, vehicle trade, engineering and related technicians, and engineering and related professional trade occupations, Webster et al. report that the incidence of RPL steadily increased between 1994 and 1998, albeit from a low base. RPL accounted for 5% of enrolments in these trade groups over the period. In the 'electrical trades' students aged between 20 and 39 were the group most likely to have received RPL. However, the percentage of people over 40 years of age receiving RPL rose from under 1% in 1994 to 7% in 1998. Small increases in the percentage of students receiving RPL who were over 40 years of age were also recorded in the building trades and vehicle trades, although students over 40 years of age were in the minority in these trade courses. In the metal trades the percentage of students over 40 receiving RPL rose from 16% in 1994 to 34% in 1998.

Webster et al. (2001) report that alternative non-apprenticeship pathways to trade occupations have been important for people as they get older. Their analysis of the 1970 cohort of the Australian Council for Educational Research youth-in-transition panel survey indicates that after 24 years of age, between 40 to 50% of workers in trade occupations comprised people who do not hold, and would not go on to gain an appropriate trade qualification in the form of an apprenticeship. At age 30, about 30% reported having no post-school qualifications. Webster et al. (2001) suggests that the high proportion of unqualified tradespersons is because of inflexibilities in the apprenticeship system. Despite recent reforms, the training system is still less suitable for older people who require more out-of-hours classes and a smaller salary sacrifice because of their work experience.

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Appendix 4: New apprenticeship subsidy arrangements

Summary of the Commonwealth New Apprenticeships Incentives Programme at 1 July 2000

Definition	New Apprenticeships are apprenticeships and traineeships, which offer more flexible part-time and full-time arrangements including part-time school-based new apprenticeships. New apprenticeships incorporate existing apprenticeships and traineeships.
CRAFT	Commonwealth incentives for apprentices who commenced before 1 January 1998 in an approved Commonwealth Rebate for Apprentices in Full Time Training (CRAFT) apprenticeship remain tax exempt.
Waiting periods	Commonwealth incentives are not payable unless the Commonwealth three-month waiting period is completed, the State/Territory training agreement is formally approved, the new apprentice is still employed and has commenced training in accordance with the approved training program.
Rural and regional new apprenticeships	The rural and regional new apprenticeships incentive is available to employers in *non-metropolitan* areas who employ a new apprentice in an occupation identified as being in skill shortage. The $1100 (including GST) incentive is available as an additional incentive to employers of new apprentices whose new apprenticeship progresses from certificate II training to certificate III or IV training (conditions apply).
Commonwealth incentives	The following summarises the Commonwealth new apprenticeships incentives regime for all new apprentices (apprentices and trainees) effective at 1 July 2000. Payment of incentives will be subject to employers and their new apprentices satisfying eligibility criteria as set out in the Commonwealth New Apprenticeships Incentives Programme Guidelines. Commonwealth new apprenticeships incentives may be subject to GST depending on the date when eligibility for incentive is established. The following Commonwealth incentives apply (amounts inclusive of GST): ❖ $1375 incentive for out-of-trade certificate II, III or IV commencements ❖ $825 recommencement incentive for out-of-trade certificate III or IV apprentices or trainees paid to all employers except 'not-for-profit' group training companies ❖ $550 recommencement incentive for 'not-for-profit' group training companies for re-establishing out-of-trade certificate III or IV apprentices and trainees ❖ $1375 progression incentive when a new apprentice progresses from certificate II to certificate III or IV training

	❖ $1100 additional progression incentive for rural and regional new apprenticeships where the new apprentice progresses from certificate II training to certificate III or IV training in an occupation identified in a skill shortage in a non-metropolitan area from 1 January 1999 ❖ $1650 completion incentive for all employers **except 'not-for-profit'** group training companies for certificate III or IV commencements ❖ $1650 completion incentive for all employers **including 'not-for-profit'** group training companies who *recommence* an out-of-trade certificate III or IV apprentice or trainee ❖ $1100 additional incentive for group training companies for each certificate II, III or IV trainee commencement ❖ $1100 incentive for commencement of a female in non-traditional certificate II, III or IV training ❖ $3300 incentive for certificate II eligible sporting trainees ❖ $3300 incentive for eligible rural trainees who are employed by an employer who has a current 'exceptional circumstances drought area' certificate
Disabled assistance	The Commonwealth provides assistance to employers of disabled new apprentices. Assistance includes disabled apprentice wage support (DAWS), workplace modifications, tutorial assistance and mentor/interpreter assistance.
Living away from home allowance (LAFHA)	Employees should be aware that new apprentices may be eligible for LAFHA of $72.80 per week for the first 12 months of the new apprenticeship if he/she had to move away from his/her parental/guardian home to commence or remain in a new apprenticeship or is homeless.

Guide to Commonwealth New Apprenticeships Incentives Payments at 1 July 2000 (amounts inclusive of GST)

	Commonwealth New Apprenticeships Incentives	
Payment	*Certificate II* $	*Certificate III or IV* $
Commencement	1375	1375
Recommencement for employers who recommence an out-of-trade certificate III or IV new apprentice, except for 'not-for-profit' group training companies	Nil	825
Recommencement for 'not-for-profit' group training companies	Nil	550
Progression for employers who progress a new apprentice from certificate II training to certificate III or IV training	Nil	1375
Rural and regional progression for employers and registered group training companies who progress a new apprentice from certificate II training to certificate III or IV training in an occupation or trade identified as a skill shortage in a non-metropolitan area—applicable from 1 January 1999.	Nil	1100
Completion for employers except for 'not-for-profit' group training companies	Nil	1650
Completion for all employers including 'not-for-profit' group training companies who *recommence* an out-of-trade certificate III or IV new apprentice	Nil	1650
Group training companies additional incentive for traineeship commencement	1100	1100
Additional incentive for women in a non-traditional traineeship or apprenticeship	1100	1100
Additional incentive for sporting operations traineeship	3300	Nil
Additional incentive for exceptional circumstances 'declared drought area' certificate	3300	Nil

To be eligible to receive Commonwealth new apprenticeships incentives, both the employer and the new apprentice must satisfy the relevant eligibility criteria as set out in the Commonwealth New Apprenticeships Incentives Guidelines.

Source: Reprint of Department of Education, Training and Youth Affairs (2000) *Summary of the Commonwealth New Apprenticeships Incentive Programme*, DETYA, Canberra